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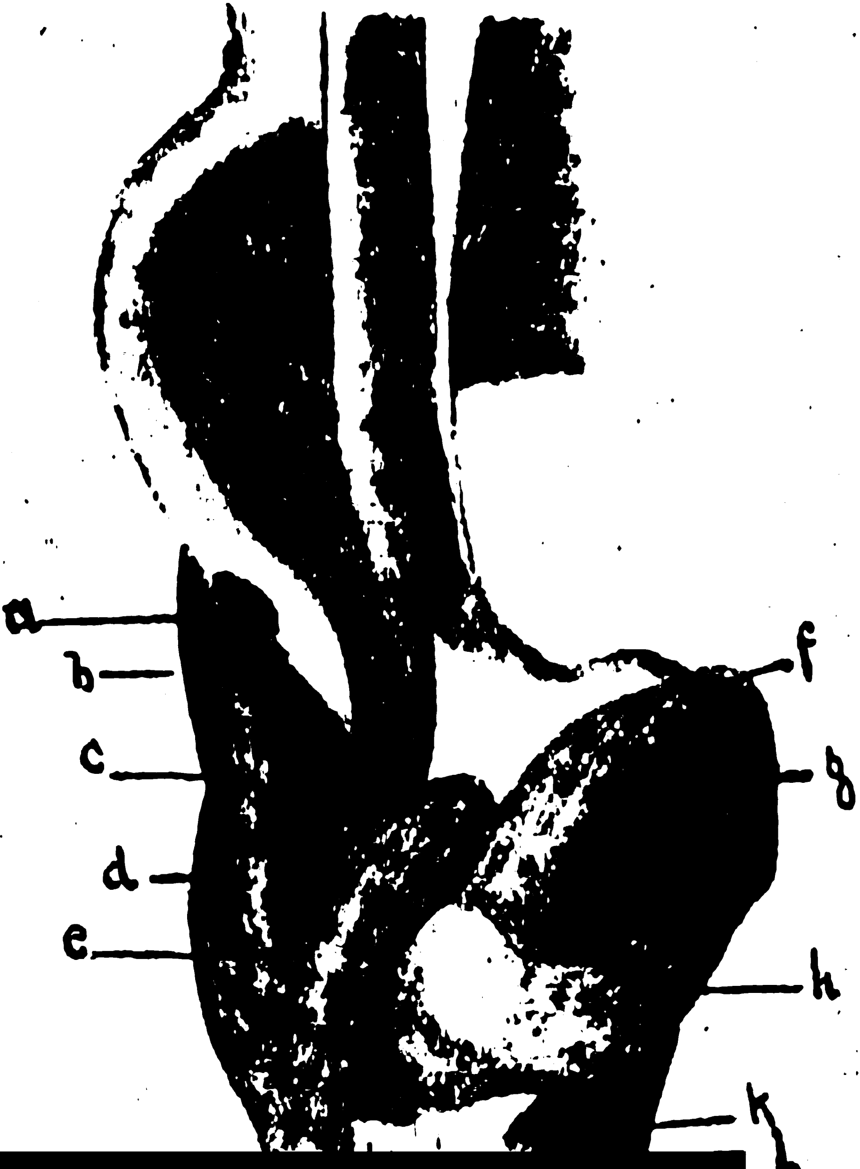

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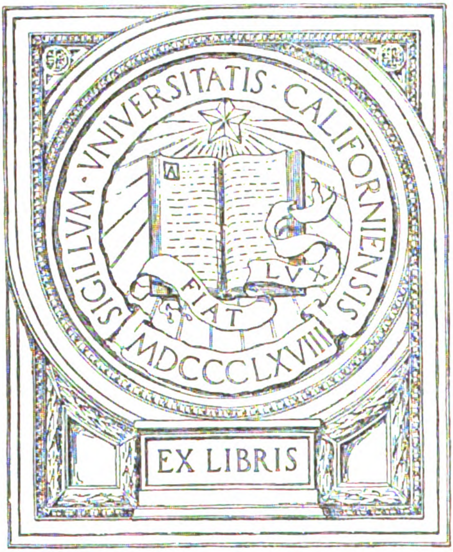

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THE

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ORIGINAL ARTICLES.

A CASE OF DERMOID CYST OF THE PENIS, OF TUBULAR FORM.[1]

By GEO. HENRY EDINGTON, M.D., M.R.C.S. Eng.,

Senior Surgeon to the Central Dispensary, and Extra Surgeon to the Dispensary of the Western Infirmary, Glasgow.

I HAVE brought this specimen under the notice of the Society not so much on account of its real as its apparent rarity. Another reason for my so doing has been to draw attention to the etiology generally of cysts occurring in this situation.

Last session I communicated a case of cyst of the prepuce,[2] and in writing that paper I found that the literature of the subject was not a large one. This statement holds true not only for congenital, but also for cysts in general in this region; but in the opinion of some writers these cysts often escape notice on account of their small size. On the other hand, if they have been opened, or have done so spontaneously, after suppurating, their true nature has not been recognised. They then come under observation as intractable fistulæ, the *fistules kystueuses* of Cruveilhier.

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[1] Paper read and specimen shown at a meeting of the Glasgow Pathological and Clinical Society, 14th November, 1898.

[2] *Glasgow Medical Journal*, June, 1898.

The specimen which I bring before you now is an instance of the truth of this last statement.

On the 30th April, 1898, I was asked by a medical man to see with him a patient in whose penis he had slit up a discharging sinus. The patient, aged about 40 years, had noticed a swelling on the under aspect of the penis while abroad, about twelve months before. This he (the patient) opened, and let out some "matter." The wound never closed, but continued to give vent to a semi-purulent discharge. When he was seen by my friend, the condition was that of a discharging sinus on the under surface of the penis. He split up this sinus in the middle line, and scraped the walls of the cavity thus laid open. The edges of the skin were sutured, but the stitches cut out, and the cavity showed no signs of granulating. When I saw the case I found the whole of the penile raphé had been split open, and the skin of the penis could be turned back towards the dorsum on either side like the leaves of a book (Fig. 3 p. 3). The cavity so exposed was lined by a smooth whitish wall of some consistence. There was, at the free edges of the skin flaps, no apparent continuation of the epidermis into the cyst wall, the two structures being separated, except anteriorly, by a thin edge of granulations. The appearance of the wall was suggestive of an epithelial structure, and a small piece was removed for examination. The microscope confirmed my opinion, and, the patient having been anæsthetised, I dissected away the whole of the wall. It was adherent at parts to the underlying corpus spongiosum, and this was specially noticed behind

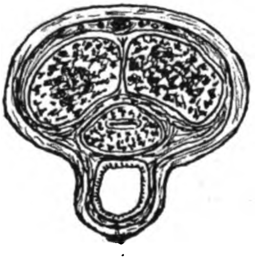

FIG. 1.

Represents diagramatically the condition of parts in cross section before cyst first opened.

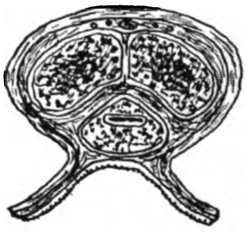

FIG. 2.

The same after the sinus had been split np.

at the peno-scrotal angle, but there was no connection with the lumen of the urethra at any point.

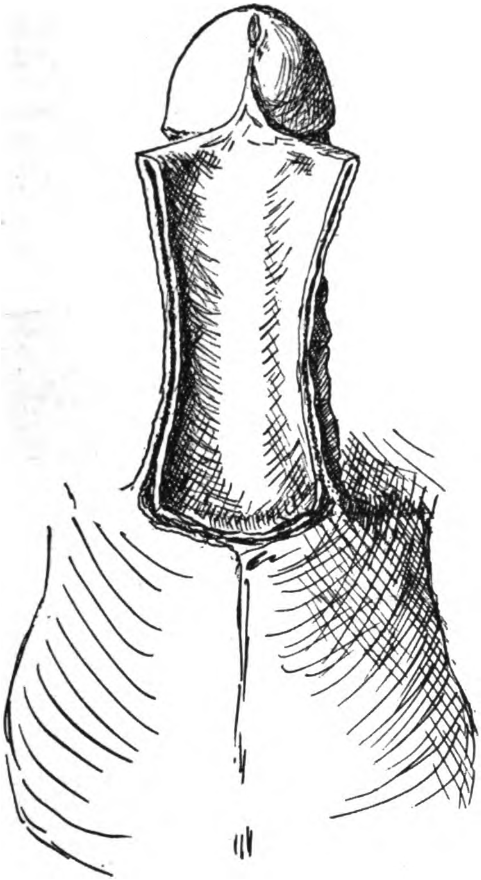

FIG. 3.

Ventral view of the penis as first seen by the writer. The skin and cyst wall are turned back, and anteriorly the latter passes into the skin.

The skin edges were brought together and sutured, a small gauze drain being inserted posteriorly and removed in the course of two or three days. Healing progressed uninterruptedly.

The glans was entirely uncovered by the prepuce, but there was no abnormality in the situation of the meatus.

On stitching together the edges of the specimen it formed a tube, and, the lumen having been packed with cotton-wool, the structure was hardened in methylated spirit.

The cylindrical tube, after hardening, measures about 2½ inches in length, by nearly three-eighths of an inch in diameter.

The wall was examined in two places—(1) from the ventral portion anteriorly; (2) from the dorsal, about midway between the anterior and posterior extremities of the tube.

Both sets of sections agree in possessing the various epithelial layers common to the epidermis, but while interpapillary processes are well-marked in the ventral, they are only occasionally met with in the dorsal sections, and are not well formed. In addition, the superficial strata in the dorsal sections are in parts incomplete, and there is round-celled exudation in these situations. This appearance is clearly the result of the scraping operation (Fig. 4, *A* and *B*, p. 4).

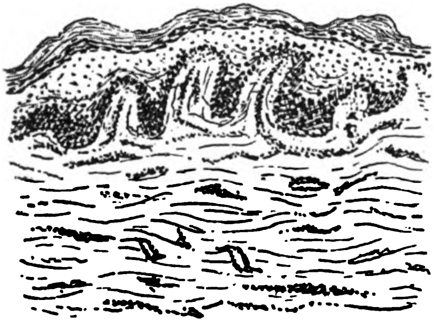

Fig. 4 (*A*).

Section of cyst wall anteriorly from ventral part of tube. Resemblance to the epidermis is marked.

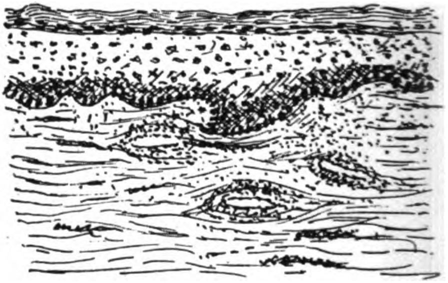

Fig. 4 (*B*).

Section of wall almost midway back on dorsal part of tube. Observe interpapillary processes are not so regular, and in the connective tissue is round celled exudation.

External to the epithelium is a stout wall of fibrous tissue containing blood-vessels, and roughly corresponding to the dermis. On account of the former operation having destroyed the raphé, its relation to the cyst wall could not be determined microscopically.

From a consideration of the embryology of the parts given in my former paper (quoted above), I am of opinion that this tube should be considered as a dermoid cyst of the penis, arising from epithelium included by closure of the raphé.

I am aware that the term "dermoid" is usually applied to a cyst whose wall possesses glands and hairs, but when the raphé is formed—viz., at the end of the third month—there are in the embryo no traces of hair or glands, and, according to Mermet,[1] the included epithelium retains its embryonic characters.

The normal situation of the meatus is interesting as a contrast to Thöle's[2] case, which presented hypospadias. The similarity of the epithelium in both the dorsal and ventral parts of the cyst wall also differs from the case reported by this observer.

LECTURES ON CLINICAL MEDICINE.

DELIVERED IN THE GLASGOW ROYAL INFIRMARY.

By JOHN LINDSAY STEVEN, M.D.,
Physician and Lecturer on Clinical Medicine in the Infirmary.

X.

ON PROFUSE HÆMATEMESIS DUE TO "PORE-LIKE" EROSION OF THE GASTRIC ARTERIES—NO ROUND ULCER—EXULCERATIO SIMPLEX OF DIEULAFOY.[3]

In the following remarks I intend to call your attention to a lesion giving rise to sudden profuse hæmatemesis, which, though perhaps not an uncommon one, is probably not often thought of in connection with severe bleedings from the stomach. Further, the nature of the cases in which this lesion occurs, from the great ease with which it may be overlooked even at the *post-mortem* examination, may be erroneously explained, or perhaps not explained at all. It has recently been my lot to have had under my care a number of cases of very severe hæmorrhage from the stomach, so severe as in all of them at once to threaten the lives of the patients, and as two of them unfortunately came to a *post-mortem* examination,

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[1] *Revue de Chirurgie*, Paris, 1895, vol. xv.

[2] *Bruns Beiträge zur Klin. Chir.*, Bd. 20, 1898.

[3] Specimen shown and cases described at a meeting of the Glasgow Medico-Chirurgical Society held on 2nd December, 1898.

I have thought it right to bring before you the clinical and pathological notes in detail. The usual causes of hæmorrhage into the stomach are so well known that, whenever we meet with a case, we almost invariably think of one or two well recognised lesions, such as simple perforating ulcer, malignant ulcer, or hyperæmia due to portal obstruction. To none of these categories, however, do the cases I am about to demonstrate belong. Any of the lesions I have mentioned may give rise to profuse and sudden effusion of blood into the cavity of the stomach, and it is natural that we should think of them when such cases occur, and equally so that we should be surprised when the autopsy shows that they are not present. In both of my cases, during the lives of the patients, perforating ulcer was regarded as the most likely cause of the hæmorrhage, but in neither of them was an ulcer of the ordinary type present. Even a cursory examination of the literature of hæmatemesis convinces us that this is not an uncommon experience, and in not a few cases the apparently healthy state of the stomach as demonstrated *post-mortem* has led the observers to suppose that the bleeding may have been due either to vaso-motor disturbance or to exhalation from the vessels. It is in the hope that the details I am now to submit may throw some light both on diagnosis and treatment that I bring these cases before you.

CASE I.—*Profuse hæmatemesis due to "pore-like" erosion of a branch of the gastric artery—Arrest of the bleeding under rectal feeding and subcutaneous saline injection—Death soon after from exhaustion due to uncontrollable diarrhœa.*

Mrs. G., æt. 28, a housewife, was admitted to Ward 8 of the Royal Infirmary on 24th October, 1898, complaining of a vomiting of blood which took place on Saturday, 22nd October.

Up till four weeks before admission the patient had enjoyed good health, and, in particular, no history of gastric symptoms before this time could be obtained. Four weeks before her admission she first experienced anorexia and pain after food, the pain beginning seven or eight minutes after a meal, lasting for about an hour, and not being very severe. A week before admission a paroxysm of pain occurred about 4 o'clock in the morning, obliging her to get out of bed. In about half an hour she became sick, and vomited profusely for the first time. She was ignorant of the character of the vomit, but she noticed no blood-stains on her clothing afterwards. The vomited material had a bitter taste. All that day the pain in the stomach was very severe and anorexia complete. The pain remained severe during the following week, and though going about, she was very weak and unable to take food. On Friday, 21st October, she did much housework, and on Saturday, although feeling very weak and sick, she continued at her household duties till about 1 o'clock in the afternoon, when she was forced to lie down. Shortly afterwards she began to vomit blood, the blood being put up in two large gushes, amounting in all to about 1 pint. She was admitted on Monday (24th) without any recurrence of the hæmatemesis having taken place in the meantime. The bowels were naturally constipated, and she had never observed anything resembling blood in the motions.

On admission she was found to be a sparely-built woman, on the whole fairly well-nourished, but presenting considerable pallor of the skin and mucous membranes. The tongue was clean, but there was a slightly fœtid odour in the breath. The pulse numbered 100 and was somewhat soft. The respirations were 24, and unembarrassed. The temperature on admission was 98° F. There was no tenderness on pressure in the epigastrium, and nothing abnormal either here or elsewhere in the abdomen could be made out on physical examination. The heart and lungs presented healthy characters, as did likewise the urine, which contained neither albumen nor sugar.

The foregoing account is from the clinical report by Dr. George Coats, house physician. I saw the patient at 9·30 P.M. on the evening of her admission, and entered the following account of her condition in the ward journal:—

24th October.—During the afternoon the patient rested in bed without apparently being very ill in any way. About 8·10 P.M., while endeavouring to pass urine, she suddenly became sick and vomited violently. The vomited material consisted almost entirely of bright red blood, a large portion of which went on the floor. The part seen by Dr. J. Lindsay Steven measured 12 oz., and consisted almost entirely of pure blood-clot mixed with a little curdled milk which she had been receiving in small quantities at intervals of an hour or two since 2 P.M. When seen at 9 P.M. the patient was quite collected, and not giving the impression of extreme collapse. She does not complain of thirst; since Saturday (22nd October), however, she has had slight occasional dimness of vision and lightness in the head.

The pulse is small, but of very fair tension and regular in force and rhythm, numbering 90 per minute. The tongue is quite clean, although the breath is still rather fœtid. Pallor is more marked on the face than on the lips, which are fairly coloured. The abdominal wall is relaxed, suggestive indeed of slight emaciation. No tenderness anywhere discovered, and no fulness or hardness at any point. The patient is quite decided that her gastric symptoms are only of four weeks' duration, and that, with the exception of the hæmatemesis on the 22nd, she had only vomited once before this, as described in Dr. Coats' report. She thinks that on this first occasion it was bile she vomited, from its bitter taste.

A detailed physical examination is impossible, but Dr. J. Lindsay Steven is of opinion that, as regards the hæmatemesis, the heart and lungs may be regarded as normal. She declares that she is not the subject of a chronic cough. She cannot blame anything for causing her illness, but her circumstances are rather poor.

The treatment then ordered was as follows. She was to receive absolutely nothing by the mouth except small pieces of ice occasionally. In the event of failure of the pulse, brandy *per rectum* was to be administered; one-sixth of a grain of morphia hypodermically if she were restless; and in the event of a recurrence of the hæmorrhage, Dr. Coats was instructed to practise subcutaneous injection of saline fluid to 1 pint.

25th October.—General condition very satisfactory. Pulse of very fair tension, the patient not being in any way collapsed. A fair amount of sleep during the night, and, except of debility, no complaint to make. This morning, in response to an enema, a large quantity of tarry material, partly formed, partly loose, was passed from the intestines. Nourishment by means of nutrient suppositories and enemata every three hours was commenced to-day.

She remained very well until 28th October, receiving nothing but small pieces of ice by the mouth. During the visit on that morning I witnessed an attack of hæmatemesis, in which 15 oz. of pure bright blood were evacuated. After this the patient was very collapsed, and she was treated by the administration of 20 minims of turpentine and half an ounce of brandy *per rectum*, one-sixth of a grain of morphia hypodermically, and the injection of 1 pint of saline solution subcutaneously.

During the afternoon of 28th October the patient had two additional hæmorrhages, amounting in one to 1½ oz., in the other to 4 oz., and saline injection was again practised in the evening.

3rd November.—The patient progressed very satisfactorily from the period of the last hæmatemesis until 1st November, having been fed during the whole period of residence entirely by the rectum. On 31st October a moderate diarrhœa set in, and on the 1st of November it had been determined at the visit to begin milk by the mouth in 1 drachm doses. Until this morning the bowels have been moved seven or eight times each day, the motions being normal in colour, but exceedingly offensive—without any tarry condition. A slight elevation of temperature also on the night of 2nd November and morning of 3rd November (a maximum of 101·2° being reached) took place. During this period of fever and diarrhœa the pulse has ranged from 120 to 130.

There has been no return of hæmatemesis.

7th November.—Since above note patient has become progressively weak, and she died this afternoon. The diarrhœa mentioned above proved uncontrollable, laudanum and astringents having little effect on it. Latterly the bowels have been running practically constantly. The pulse has ranged between 120 and 140, but for two days has been sometimes imperceptible. A very offensive smell was exhaled from patient. Temperature rose to 100·6° just at death. Hiccough was present for about twenty-four hours before she died, but was not severe.

Summary of post-mortem examination.—The peritoneal cavity, as a whole, presented healthy characters. Examination of the peritoneal aspect of the stomach wall and of the pyloric and duodenal regions, both anteriorly and posteriorly, revealed no trace of abnormality. The œsophagus and duodenum presented quite healthy characters; the mucous membrane of the stomach also, as a whole, was quite normal in appearance. On the posterior surface, about 4 inches above the pylorus and 1½ inch below the lesser curvature, a very superficial abrasion, about a quarter of an inch in length and one-eighth of an inch in breadth, was discovered.

There was no thickening of the floor or edges of the abrasion, and no redness around it. In the middle of the abraded area two pin-hole openings were observed, through which a bristle was directly passed (as is now seen in the preparation) into one of the primary lateral branches of the gastric artery. This might very readily have been missed from the very healthy character of the mucous membrane surrounding it. Evidence of slight catarrh of the intestines was present, but no blood was found in them.

There was considerable œdema towards the bases of the lungs, and old fibrous adhesions over the lower lobe of right were present, but the other organs presented nothing abnormal, with the exception of great anæmia.

CASE II.—*Profuse hæmatemesis due to "pore-like" erosion of a branch of the left gastro-epiploic artery—Laparotomy—Death due to hæmorrhage, about 96 oz. of blood having been lost while under observation in the ward.*

W. S., 38, a vanman, was admitted to Ward 7 on the 17th of April, 1898, on account of a severe vomiting of blood which had suddenly come upon him while walking in the street, and apparently without warning of any kind. An ambulance attendant who saw the blood estimated its quantity at from two to three pints. He was much collapsed when admitted at 10 P.M., but was quite clear that the blood had been vomited and not coughed up, the evacuation having been preceded by distinct sickness.

On the morning of the 18th I made the following note:—

No further external hæmorrhage occurred from the time of admission until about 8 o'clock this morning, when he felt sick, and asked for the bedpan. Vomiting and movement of the bowels occurred practically simultaneously. The vomited matter consisted almost entirely of pure blood diluted somewhat with thin, watery mucous fluid, but coagulating rapidly into thin large clots. Vomiting occurred twice, with an interval of about half an hour, the total quantity being about 40 oz. The motion consisted of black, tarry-looking motion, and was probably about 2 pints in quantity; since this he has retched twice, but has not vomited. At the visit this morning, the patient is found to be pale and somewhat drowsy, the pupils being contracted, evidently the result of hypodermic of a quarter of a grain of morphia administered at the time of the hæmatemesis.

The tongue is pale, and coated with a buff coloured fur; the pulse is quick, small, compressible, numbering about 120 per minute. The heart sounds are feeble, only the second being easily heard; there is no mumur.

The chest is well formed, and no abnormality of the lungs is detected. It is not considered advisable to palpate the abdomen freely, but a superficial physical examination of the epigastric region reveals nothing abnormal, and the patient makes no complaint of pain on manipulation. On enquiry, one or two details of clinical history are elicited:—For some time past, he does not know how long, he has been occasionally liable to severe spasms of colicky pain in the bowels, each attack not lasting long. He said nothing to anybody about these attacks. During the week before admission he had been idle, and had probably been drinking more than usual. The hæmatemesis took place without warning whilst he was out walking with his brother. He is perfectly clear that he vomited the blood, and did not cough it up, and that the vomiting was preceded by a sense of sickness.

During this morning, since the vomiting, he has been somewhat restless, but has made no complaint of pain.

20th April.—The patient had remained fairly well till this morning, when, at 8 A.M., 21 oz. of fluid blood were vomited. Careful physical examination of the abdomen was absolutely negative. The pulse remained of fair volume, but was easily compressible, numbering 110 per minute. Pallor is very great. Temperature subfebrile in character, ranging between 99° and 100°.

21st April.—During the day smaller quantities of blood had been constantly put up, and the total evacuated since yesterday morning at 8 A.M. is 43½ oz. Mr. Pringle saw the patient in consultation with me this forenoon, and it was agreed then that if further evacuation of blood occurred operation should be undertaken, with a view, if possible, to securing the bleeding point or surface. One ounce of blood was brought up about 4 P.M., and at 8 P.M., in my presence, Mr. Pringle performed laparotomy, examining the stomach externally, and, after opening it, exploring the interior with the finger, but nothing could be found. The transverse colon was distended and dark-looking, apparently from blood in its interior. The patient died about an hour and a half after the completion of the operation. The total amount of blood vomited during residence in Ward 7 was 96 oz., in addition to a number of tarry motions.

On 22nd April, 1898, I was present while Mr. Pringle performed a *post-mortem* examination, and his description of the stomach is as follows:—There is a sutured wound in the anterior wall of the stomach, about 1½ inch from the pylorus. The stomach is empty. About 2 inches to left of the wound, 3½ inches to 4 inches in from the pylorus, and 1½ inch up from the greater curvature is a small depressed area about the size of a threepenny piece. In the centre of this area an oblique opening into a vessel (a large branch of the left gastro-epiploic artery) is seen, into which a bristle can be passed 2 inches in one direction and 1 inch in the other. There is no thickening of the stomach around the depression, and the serous coat over it is absolutely natural in appearance. The other abdominal organs presented healthy characters. The depressed area scarcely deserved the name of an ulcer. It was a mere superficial abrasion, which might altogether have been overlooked had it not been for a minute blood-clot adhering to its surface. With this exception the mucous membrane of the stomach presented quite healthy characters.

The medical treatment adopted in this case was precisely similar to that adopted in Case I, with this exception that subcutaneous injection of saline solution was not practised.

The occurrence of the two cases which I have just described, and the specimen from the first of which I have demonstrated, made a profound impression upon my mind, chiefly on account of the minuteness of the lesion capable of producing such disastrous results. That such a lesion may not be at all an uncommon one I can well believe, but that it has not been very frequently described is at once apparent from a glance into the literature of hæmatemesis. In consulting the various accounts of profuse and fatal bleeding from the stomach which were available to me, I find a certain number of cases on record in which no lesion could be found at the *post-mortem* examination, the mucous membrane of the stomach being regarded as healthy. Now, it is quite possible that in such cases there may have been a minute pin-hole opening of one of the arteries which had escaped notice. In certain other records, to the titles alone of which I have been able to obtain access, I judge that the lesion giving rise to the hæmorrhage was of a nature precisely similar to that I have been describing in this lecture. Thus, Chiari, of Prague (*Prag. Med. Wochenschr.*, 1882, vii, 489), describes a case of fatal hæmatemesis under the following heading:—"Fatal bleeding from the stomach resulting from the erosion of a submucous vein within an abrasion of the mucous membrane only the size of a large barleycorn." Again, Ferrand (*Bull. et Mem. Soc. Med. d. hop. de Par.*, 1895, 3, S. xii, 309-312) describes a case of "abundant hæmatemesis without ulcer properly so-called," a mode of description perfectly applicable to both of my cases. In the *Pathological Transactions*, 1870, vol. xxi, p. 162, Dr. Murchison described two cases of fatal hæmatemesis from very minute ulcers perforating a small artery in the coats of the stomach. Dr. Murchison writes with regard to them—"They are remarkable, not only for the minuteness of the ulcers, which were little more than hæmorrhagic erosions, but also for the absence of the usual symptoms of ulceration of the stomach. Neither of the patients had suffered from vomiting prior to the occurrence of the hæmorrhage." But, beyond all doubt, one of the most important communications on this very serious lesion is that by Dieulafoy in the *Bulletin de l'Academie de Médecine*, 3e serie, tome xxxix, 18th January, 1898, p. 49, entitled "Exulceratio Simplex." The paper contains an account of seven cases which are similar in all essential details to those I have brought under your notice. Two of the cases were under his own care, and one was saved by opening the stomach and securing the bleeding point. In both of these cases he had expected to find the simple ulcer of Cruveilhier; he *had* found only an exulceration, more or less extensive and exceedingly superficial, which had penetrated an artery by an opening sufficient to allow a pin to be introduced. Two of the seven cases were subjected to careful histological investigation by Dieulafoy's assistants, and the details will be found in the paper. It is sufficient to indicate that only the mucous membrane and the muscularis mucosæ were involved in the abrasion, which did not involve, except very partially, the submucosa, and that in one case the perforated artery was found to be quite healthy. Small miliary abscesses were detected in the neighbourhood of the abrasion, which Dieulafoy regarded as the initial stage of the lesion. As regards diagnosis the lesion was to be distinguished, in his opinion, from tubercular, syphilitic, and typhoid ulceration; and while proposing the name "exulceratio simplex," Professor Dieulafoy writes that as regards the essential nature of the lesion he regards it as the initial stage of the simple ulcer of Cruveilhier.

I shall conclude this lecture by making a few observations upon certain practical points bearing upon the diagnosis and treatment of the lesion I have been describing.

As regards diagnosis, the first point to be commented upon is the exceedingly profuse character of the hæmorrhage, which in both of our cases from the first threatened the lives of the patients; and, in the second, may be said to have been the primary cause of death. That such exceedingly profuse hæmorrhage may occur in the simple perforating ulcer cannot be doubted; but, on the whole, I think it is not so likely to occur, as the morbid condition of the tissues in the wall of the round ulcer is more likely to induce a thrombosis, which may either prevent the hæmorrhage altogether, or, when it does occur, may more readily lead to its arrest.

The second point of diagnostic importance is the comparative absence of antecedent gastric symptoms. That this also may be characteristic of the development of the round ulcer cannot be doubted; but in most cases a careful enquiry will reveal the existence, usually during a considerable period of time, of some of the symptoms of round ulcer. In our second case it may be admitted that these were entirely absent; in the first, gastric symptoms had only been present for four weeks altogether, and became urgent for the first time about a week before the first hæmorrhage. Further, it can hardly be said that the symptoms detailed in the clinical history were characteristically those of the round ulcer.

Hæmorrhage, sometimes of a very profuse kind, from the stomach may result from the presence of malignant ulcers, from hyperæmia due to portal obstruction arising from cirrhosis of the liver, or from varicose veins of the stomach. As regards the two former conditions, difficulties of diagnosis are not likely to be great; as to the latter, I have no personal experience, but I should think that the difficulties of detecting the true source of the bleeding during life would be considerable.

With regard to the nature of the "pore-like" erosion of the gastric vessels which has been made the subject of this lecture, I am very much inclined to agree with Dieulafoy in thinking that the lesion is probably the initial stage of the simple round ulcer of Cruveilhier.

The treatment of the condition must always be a matter of the gravest concern to the physician. Our first case shows, I think, that under medical measures the bleeding may be arrested. But possibly this may be effected only when the vital powers are so exhausted that the ultimate recovery may for long be a matter of doubt. So it happened in our case. No doubt surgical interference with the view of securing the bleeding point would be the best method of dealing with such cases, but even here the result must often be problematical. To be of service the operation must be done early, and sometimes this is not possible. But perhaps a greater difficulty is the uncertainty of finding the bleeding point when the stomach is opened. Our cases show that the lesion is not one which is liable to occur in any particular region of the viscus, and this still further increases the difficulties in the way of a successful result. However, Dieulafoy has had one successful result, and I must say that if a case similar to the second reported in this lecture were to occur to me again, I would recommend an operation at the earliest possible date.

ENDEMIC GOITRE AND ITS OCCURRENCE IN LANARKSHIRE, WITH SOME OBSERVATIONS ON THE PATHOLOGY OF THE DISEASE.[1]

BY DAN. M'KENZIE, M.D.

ALTHOUGH an examiner at one of the recent "finals" in Glasgow objected to the statement of a student that goitre occurs in the endemic form so near his centre as Larkhall, the disease does exist there. With little trouble I have brought together and detailed, during the last five years, some ninety cases occurring in my own practice. I spent some little time in going over the literature of the subject, and embodied the result of my work in a Thesis for M.D. presented to Glasgow University in April, 1898.

In my paper to-night I shall not go over the distribution of the disease in Europe, Asia, and America,[2] but (1) shall touch only upon its endemic occurrence in Scotland; and (2) shall make a few remarks on the pathology of the disease.

I. *Endemic goitre in the Scottish Lowlands.*

The centres of goitre in Scotland compared with many of the countries of Europe, particularly those bordering on the great mountain ranges of the Alps, Apennines, and Pyrenees, are few in number and small in superficial area. In the interior of Perthshire, and on the east coast of Fife, endemic goitre is said to be present, but the greatest endemic centres are found in the Lowlands. In 1862, Dr. A. W. Mitchell[3] described it as occupying "the greater part of Roxburgh, the upper parts of Selkirk and Peebles, the eastern parts of Ayrshire (where it touches Lanark and Dumfries), the upper district of Lanark, the whole of Kirkcudbright and Dumfries, the west of Berwick, and the east parishes of Wigtown. It reaches its intensity in the upper valley of the Nith," where Dr. Chalmers, of Thornhill, reports it affects "half the women."

A glance at the map of Scotland will show that this fairly large area is in and around the Lothian Hills, roughly speaking.

Dr. Jackson writes me (1897) from Sanquhar, where Mitchell reports that the disease reaches its intensity, that goitre is still common in that district, but that the individual goitres are small, and cause no trouble. The only part of Lanarkshire where Mitchell knew of its occurrence was in the extreme south of the county. I can now supplement that knowledge both from my own observation and from reports sent me by medical men practising in the district.

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[1] Read at a meeting of the Glasgow Medico-Chirurgical Society held on 2nd December, 1898.

[2] See A. Hirsch's *Handbook on Geographical and Historical Pathology*, translated by C. Creighton, M.D., New Sydenham Society, 1885, p. 122 *et seq.*

[3] A. W. Mitchell, M.D., "On the Nithsdale Neck or Goitre in Scotland," *Brit. and For. Medico-Chirurg. Rev.*, April, 1862, lviii, p. 502.

Endemic goitre exists in varying degrees of intensity in the valleys of the Clyde and its tributaries (particularly in those of the west side) in the middle and upper wards of the county. It attains its maximum severity in the coal mining districts of Larkhall, Dalserf, Stonehouse, Wishaw, and Carluke, and in the agricultural districts of Strathaven, Lesmahagow, and Blackwood. It dies off immediately north of Larkhall somewhat abruptly, so that cases seen in Hamilton are importations from our neighbourhood. Drs. Goff and Grant inform me that it is quite absent from Bothwell and Blantyre. In Strathaven the endemic prevalence of goitre is as great perhaps as with us in Larkhall, affecting particularly the farming classes there, among whom it is found to the remote western boundaries of the county and to the adjacent parts of Ayrshire. Dr. D. Dougall, of Strathaven, to whom I am indebted for this information, also states that it is increasing in severity. In Lesmahagow and Blackwood parishes the numbers affected with goitre are considerable, and according to Dr. J. Lindsay, there is no sign of amelioration there. From the extreme south of Lanarkshire conflicting reports reach me. From some sources I am told that goitre is quite absent; from others that it does exist, though to a slight extent. From what Mitchell says, however, and from conversations I have had with men in practice there, I think we are right in saying that the disease is probably prevalent in those parts, but, owing to the slight enlargement of the gland, is not observed unless specially looked for.[1]

In and around the town of Larkhall I find about 25 per cent of the female inhabitants are goitrous in such a way as to attract attention; in a much larger percentage the gland will be found larger, fuller, and more obvious to the palpating finger than usual. Men are rarely affected, children of both sexes occasionally. I have seen two congenital cases. In one infant the enlarged gland filled up almost the whole space between chin and sternum in such a way as almost entirely to obliterate the natural hollow here. The gland subsided to quite a small goitre in about three months under suitable treatment.

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[1] I have to express my thanks to the gentlemen mentioned in the text, and also to Dr. John Millar, of Newmains; Dr. Mackenzie, of Abington; and Dr. Adams, of Lanark, for kindly supplying me with details of the endemic in their respective districts.

Of the whole population, perhaps 10 to 15 per cent are goitrous, the great majority so slightly as to escape their own notice. I have, however, seen some very large tumours.

About 98 per cent of the cases occur in the mining and labouring classes.

The most severely smitten parts are those in the Avon valley and towards Strathaven westwards, and the largest goitres are found in people whose forefathers have lived here before them.

I have seen one or two cases of cretinism, but not in such connection as to suggest its origin from the same cause as goitre, *i.e.*, they were probably cases of sporadic cretinism.

In going over the parish records I find only one death attributed to "goitre;" I have seen one other myself.

I think, after considering all the facts of the case, that the endemic is less severe and widespread than it used to be.

II. *Etiology of goitre as an endemic.*

Endemic goitre has been, like the Low Countries for Europe, a battleground for ardent medical controversialists of all ages. Each epoch of medicine has assumed its favourite theory to be the cause of goitre, and each observer has supposed it to be due to to the physical feature which differentiated his district from immune regions around. St. Lager[1] tells us that he can number no fewer than three hundred and seventy-eight authors and forty-two different views of its causation! So perhaps I may owe the subject an apology for burdening it with another, if indeed it is a new one.

We shall lay aside all the more ancient views, such as rarity of air, absence of sunlight, of iodine, presence of lime salts in the drinking-water, &c., &c., long ago shown to be untenable.

The modern view, that goitre is caused by a *contagium vivum* of some kind occurring in the soil of the affected localities and reaching man by the drinking-water, may be pretty well looked upon as proved. For no other theory of causation can account for—

1. The occurrence of the disease within sharply demarcated areas.

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[1] St. Lager, *Etudes sur les causes du Crétinisme et du goître Endemique*, Lyon, 1868 (now out of print).

2. The fluctuations in the severity of the endemic (observed when watched over a large number of years).

3. The fact that boiling the water of a "goitre well" renders it harmless.

4. The occasional total disappearance of the disease from a district after the introduction of good drainage.

As to what the nature of the organism of goitre may be we are yet in the dark, but the many points presented by goitre in common with malaria suggest that the *contagium vivum* is is one of the protozoan group. I observe in a recent number of the *British Medical Journal*,[1] that Professor Grasset, of Montpellier, states he has found an organism in the blood of persons recently goitorus, with characters something like the parasite of malaria as described by Laveran. Going upon the same lines I made, during the year 1897, many examinations of the blood of goitrous people with a uniform want of success.

Although the features of most endemics of goitre show clearly that the drinking-water acts as the vehicle for the poison, I find that goitre as it exists now in Larkhall has no connection with our water-supply. The towns of Larkhall and Bothwell (separated from each other by about seven miles) have had the same water-supply for the last sixteen years. No water is introduced into the Bothwell supply other than from the same source as that of Larkhall, yet we find Larkhall affected with goitre and Bothwell quite free from the disease. I therefore attribute the Larkhall endemic to an infection conveyed directly from the soil to the body by eating with unclean hands, &c. The influence of the old surface wells is clearly proved, for those of the inhabitants whose conservatism forbids them to employ the "gravitation" water are all goitrous.

We are still ignorant of the causes which lead the organism of goitre to prefer certain localities to others. All the older theories which were at one time supposed to account for the prevalence of the disease have been found wanting. At the present moment we are awaiting definite information as to whether any particular geological formation or formations have an influence on the endemic. Bircher,[2] as a result of one of those painstaking investigations so peculiarly Teutonic, concludes that goitre in Switzerland occurs only on the trias, eocene, and marine sedimentary formations, while freshwater sediment, and Jurassic formations, with crystalline, chalky, and volcanic rocks, are free from the disease. It also occurs, he says, on Silurian, Devonian, and carboniferous rocks.

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[1] "A Hæmatozoon in Goitre," *British Medical Journal*, 24th September, 1898, p. 915.

[2] Bircher, *Der Endemische Kropf u. seine Beziehungen zur Taubstummheit u. zum Cretinismus*, Basel, 1883, p. 14 *et seq.*

Kocher,[1] of Berne, on the other hand, in 1889, after a series of investigations no less painstaking, comes to the conclusion that the rocks excluded by Bircher are really affected. Kocher attributes the presence of the disease to a "mixing up" (*beimischung*) of the rocks. What exactly a "mixing up" of the rocks may mean, I fear geology does not inform us. One suggestive point of Kocher's, however, is that where goitre occurs there is generally much organic matter on the rocks.

From some of the characteristic features of goitre endemics we may, I think, infer a little as to the probable habits of the goitre organism.

Epidemics of goitre have rarely been observed, and then only in districts previously goitrous. Large epidemics of goitre, sweeping suddenly over a large part of the world and retiring as suddenly, do not occur. So we may take it that the organism is of slow growth. ' Its definite confinement to certain districts, where it is found over long periods of time and from which it almost never spreads, shows that it requires some special conditions for its existence. What these conditions are we do not yet know. We connect them only in the vaguest possible manner in some way with the soil, and possibly with certain rocks or geological features. The divisions between a goitrous and a neighbouring non-goitrous country (see remarks on Larkhall endemic) are cleanly cut, so that the organism when removed from its normal habitat must quickly perish or be rendered inert.

The water of many goitre-wells, the surface drainings of many goitrous soils, and the discharges of many goitrous individuals must find their way into rivers, yet we never hear of the banks of rivers being affected with the goitre endemic from the source to the sea; proving that, although the organism lives and is generally conveyed to man in drinking-water, it is easily destroyed by admixture with purer water.

We have no knowledge as to whether it spreads from man to man directly or through a medium.

III. *Etiology of goitre in the individual.*

In my opinion, the goitre virus when introduced into the body induces an increase in the internal secretion of the thyroid gland. This theory is supported by the character of the symptoms, by the microscopic appearances of the enlarged gland, and by many peculiar facts in the treatment of the disease. These I shall run over in the order named.

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[1] Kocher, *Vorkommen u. Vertheilung des Kropfes im Canton Bern*, Bern, 1889.

Symptoms.—It is a striking fact that, apart from the oft-times troublesome and sometimes dangerous pressure symptoms resulting from the presence of a bulky tumour in the neck embracing and compressing the trachea, &c., the patient is free from symptoms. A woman, for example, with a moderately-sized or even a large goitre is thereby not at all incapacitated for work if pressure symptoms are absent, as they often are. That is to say, that the thyroid gland, which recent research has shown to be intimately connected with the economy, is affected in such a manner in endemic goitre as to have no harmful effect upon the general condition. Contrast this with the profound alteration occurring in exophthalmic goitre and in myxœdema.

After looking over much of the literature on the subject, and watching my cases closely, I can find only a few doubtful evidences of general disturbance, as distinct from pressure symptoms, in goitrous patients. These are—

1. Irregularity of the pulse; sometimes found. This may arise from interference with the vagus by pressure.

2. Flushing and heats. Vasomotor disturbances quite as often found in non-goitrous women.

3. Goitrous asthma—a peculiar form of dyspnœa, sometimes ending in sudden death. Has been attributed to some general constitutional disorder, but we may quite as reasonably look upon it as due to suddenly arising interference with recurrent laryngeal.

4. I have noticed in most cases a peculiar sallow or yellow tint on the face. This feature occurs likewise in cretinism. I have seen no account of it elsewhere (except Prof. Grasset's "cachexia").[1]

These, taken together or separately, however, do not form a characteristic clinical picture leading one at once to search for a goitre.

You may remark that endemic cretinism, which never exists save in association with goitre in the endemic form, is a constitutional disturbance of the severest type. But endemic cretinism introduces one or two new features into the situation which, while altering our conception of the whole, do not interfere with the question of endemic goitre, for goitre is often found as an endemic without cretinism.

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[1] "A Hæmatozoon in Goitre," *British Medical Journal*, 24th September, 1898, p. 915.

A glance at the symptomatology, therefore, teaches us that the enlarged thyroid of endemic goitre is of such a nature that it does not induce any important constitutional disturbance.

Turning now to the *pathology*. As you know, goitre begins generally about puberty. The thyroid gland, in the first instance, is the seat of a hyperplasia of the gland follicles. In the normal thyroid of an adult the follicles are regular in size and shape, almost always round, lined by a single layer of cubical epithelium, and separated from each other by normal connective tissue. The follicles are uniformly packed with colloid.

In the infantile thyroid the follicles are less regular in size, but are, as before, all more or less round. The cells under high power are seen to be larger and more granular than in the adult gland, and line the follicle in more than one single layer. Colloid material is entirely absent.

In the fœtal thyroid the whole is infinitely more cellular, and the cells are even larger than in the infantile gland. The division into follicles by formed connective tissue is much less marked, and they appear as clumps of cells separated from each other by newly-formed connective tissue. Colloid is absent.

In the thyroid of endemic goitre the follicles vary enormously in size. They are no longer uniformly round, but present a wavy outline. The cellular contents of each follicle are not limited to a single layer of cubical cells. There is marked cell-proliferation, and cell-groups crowding in upon the colloid material from the wall of the follicle are often seen. The amount of colloid contained by the different follicles varies enormously. The interfollicular connective tissue is more or less all over packed with round cells.

In the normal gland the cells lining the follicles are cubical, and in one single layer. In goitre the cells are enlarged, irregular, and highly granular. Generally speaking, with the exception of the round cell infiltration and new formation of fibrous tissue, the whole appearance resembles that of the fœtal gland. But a more striking similarity is to be seen in some sections. Large areas of hundreds of epithelial cell-groups arranged like fœtal follicles are found. Their cells are large, columnar, and rounded, with a strongly marked granular nucleus. As a rule, they fill up the whole follicle, although colloid matter is to be seen in one or two. These cell-groups or fœtal follicles are situated in the meshes of a newly-formed connective tissue rich in spindle cells. The general shape of these follicles is round, but some are very irregular in outline. In their midst, here and there, are dense groups of round cells. This is an area of newly-formed follicles, the "fœtal adenoma" of Wölfler.

As a whole, the appearances are those of high glandular activity, and tally with the description of the enlarged thyroid of endemic goitre as being a "hyperplasia of the follicles of the gland with a corresponding increase in colloid material."[1]

The appearances found by Victor Horsley[2] and Murray,[3] in cases described by them as "compensatory hypertrophy" of the thyroid gland, bear such a close resemblance to what I have just described that, in my opinion, the enlargement of the thyroid gland found in endemic goitre, with its hyperplasia of glandular elements, is of the nature of compensatory hypertrophy.

Wölfler[4] has shown that in the normal thyroid gland embryonic masses of thyroid cells are found here and there, particularly towards the periphery of the gland, and these under certain stimuli are capable of taking on a kind of normal growth. Such a change as he describes probably occurs normally in pregnancy when the gland enlarges to cope with the increased metabolic changes of that period.

The primary parenchymatous enlargement of the thyroid in goitre is peculiarly liable to rapid secondary changes in the direction of—

1. Increase of fibrous tissue, a sequel of the round cell infiltration. Cirrhosis of the gland occurs, and the follicles are seen small, distorted, compressed, and often entirely obliterated by the great growth of dense connective tissue. This process does not go so far as in the myxœdematous gland.
2. Cyst formation from dilation of follicles and subsequent coalescence of dilated follicles to form one or two huge cysts. All very large goitres are cystic.
3. Colloid increase. The follicles are large, and the whole gland contains colloid material in excess.

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[1] Jas. Berry, M.B, "On the Pathology of Goitre and some other Diseases of the Thyroid," *Transact. Pathol. Soc., Lond.*, 1890, vol. xli, p. 258.

[2] Victor Horsley, "Physiology and Pathology of the Thyroid Gland," *British Medical Journal*, 5th December, 1896, p. 1623.

[3] Geo. R. Murray, "Discussion on the Pathology of Exophthalmic Goitre," *British Medical Journal*, 3rd October, 1896, p. 894.

[4] Wölfler, "Ueber die Entwickelung u. den Bau der Schilddrüse mit Rücksicht auf die Entwickelung der Kropfes," Berlin, 1880, and "Ueber die Entwickelung u. den Bau der Kropfes," *Archiv f. Klin. Chirurg.*, Bd. xxix, 1 and 4 Heft.

4. Vascular goitre, in which the blood-vessels dilate and intercommunicate, forming a huge spongy plexus of large venous spaces. In such a goitre I found colloid material lying free in the lumen of the blood-vessels.[1]

According to Gutknecht,[2] vascular goitre develops from a hyaline or colloid degeneration of the tissues.

From the pathology, then, it has been shown that the microscopic appearances of the gland are similar to those found by Horsley and Murray in compensatory hypertrophy.

If we assume that the organism of goitre affects metabolism in such a way as to demand an increase of the thyroid secretion, we can explain the occurrence of this hypertrophy.

A few facts from the *treatment* of goitre support this theory.

Goitre in the early stages, before the onset of secondary changes, may be successfully treated by thyroid or colloid feeding. Here the increased demand for thyroid secretion is met with from without, and the thyroid gland becomes smaller in size. If the treatment is stopped, the gland is liable to enlarge again.

Iodine is our sheet anchor in the treatment of goitre. During the course of iodine administration in goitre, a series of phenomena, bearing upon this idea in a very interesting and suggestive manner, has been observed. A general loss of weight and fat, weakness, palpitation of the heart may occur, ultimately going on to a dangerous wasting and decline of vital powers if the iodine is not stopped. These symptoms were originally attributed to the iodine, but they do not correspond with iodine as it is usually seen. It was noticed that they happened oftener with small than large doses (probably because the small doses led to a quick reduction in the size of the gland and the amount of gland-secretion, while large doses were used in the more serious cases). This, coupled with the discovery of *cachexia strumipriva*, led Lebert[3] to believe that these were symptoms due to the withdrawal of the thyroid secretion consequent upon the reduced size of the gland. That is to say, that the normal thyroid secretion, such as the iodine would leave untouched, is insufficient for the needs of the body in the presence of the goitre virus.

I have observed when treating goitrous patients with thyroid gland that they can stand a very much larger dose of the remedy than a normal individual can.

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[1] Dr. A. G. Auld (*British Medical Journal*, 25th January, 1896) found colloid material in the same situation in diseased suprarenal capsules.

[2] Gutknecht, "Die Histologie der Struma," *Virchow's Archiv*, 1895, Bd. xci, 2 and 3 Heft.

[3] Lebert, *Die Krankheiten der Schilddrüse*, Breslau, 1862, p. 143.

The occurrence of cretinism along with goitre may be explained in the light of this theory. If, during the growing period of life, the thyroid gland atrophies or is diseased in such a way as to interfere with its functions, sporadic cretinism results. If in a goitre district the demand instigated by the virus for a larger supply of the gland secretion cannot be met with during the growing period, even although the gland may be enlarged and working at full pressure, cretinism will again result.

The only drawback to this theory is that in adult life myxœdema ought to be common in goitrous localities. But we are only now becoming acquainted with myxœdema, and, possibly, as the knowledge of myxœdema becomes more widespread, we may hear of its prevalence in goitrous regions. I know of only one case of goitre and myxœdema.

To sum up, the modern view of goitre is that it is a disease caused by a *contagium vivum*, limited to certain areas for some unknown reason, existing in the soil and reaching man by drinking-water or unclean hands. I should add that the organism when introduced into the body induces an increased demand for thyroid secretion, which the gland hypertrophies to supply. Mikulicz[1] holds opinions similar to mine, but does not seem to go so far.

And the proofs I have adduced in favour of this idea are—

1. The gland enlargment is accompanied by no constitutional disturbance.
2. The microscopic appearances of the primary changes are those of a gland hypertrophied and active.
3. Treatment by thyroid is followed by reduction in size of the gland, which stops if remedy is stopped.
4. The successful removal of a goitre by iodine treatment has been followed by symptoms due to deprival of increase in gland secretion.[2]

Sporadic goitre may also be explained in a similar manner.

[1] Mikulicz, "Thymus-fütterung bei Kropf u. Basedow'scher Krankheit.," *Berliner Med. Woch.*, 1895, Nr. 16.

[2] For further information on this and other points, see Ewald's *Die Erkrankungen der Schilddrüse, Myxödem, u. Cretinismus*, Wien, 1896.

SUMMARY OF THE WORK OF THE PLAGUE HOSPITAL, POONA, INDIA, IN ITS CLINICAL RELATIONS.[1]

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THE report on the Plague Hospital, Poona, from which the following statement is mainly derived, deals with the period from 1st June, 1897, to 31st March, 1898. During this period 4,179 patients were treated for plague in the Hospital. This was not the only hospital admitting plague in Poona, but it was the only one admitting the disease in large numbers. The other hospitals were exclusively for Mohammedans, or for certain castes of Hindoos.

A review of the epidemic as it affected the Plague Hospital shows how the development of the outbreak required an increase of the hospital buildings from an establishment accommodating 70 patients in the early months of the above period to a substantial camp capable of admitting 68 new cases in one day. The course of the epidemic, as indicated by the number of patients under treatment at the end of each month in the epidemic period (June, 1897, to March, 1898, inclusive), is illustrated in the following sequence of numbers —viz., 5, 25, 53, 163, 356, 453, 295, 165, 96, 33, the last number relating to 31st March, the date on which the report closes. From the above it will be seen that the largest numbers appertain to the months of October, November, and December. In November the climax of the epidemic was reached, the total number of patients in hospital on the 15th of that month being 493.

A general statement regarding the admissions shows that—

1. Of the 4,179 patients, 2,836 died, 1,310 recovered, and 33 remained on the 31st March, 1898.

2. Of the 2,836 patients who died, 489 were moribund on admission, and died within a few hours after admission. Besides this number, 409 corpses arrived at the receiving-room of the hospital; presumably all these bodies were alive when removed from their homes.

3. Of the 4,179 cases, 1,743, or 42 per cent, were males above 10 years of age; 1,719, or 41 per cent, were females

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[1] Based on the report prepared by Surgeon-Captain J. Lloyd T. Jones, M.B., I.M.S., Special Plague Officer, Poona, and submitted to the chairman of the Plague Committee, Poona, April, 1898.

above 10; and 717, or 17 per cent, were children 10 years of age and under.

4. Of the 1,743 males, 1,244 died, 480 recovered, and 19 remained on the 31st March. Of the 1,719 females, 1,152 died, 556 recovered, and 11 remained. Of the 717 children, 440 died, 274 recovered, and 3 remained. The case mortality amongst males, females, and children, after deducting the 489 moribund cases, was equal to 60, 58, and 46 per cent respectively.

5. Of the 2,836 deaths, 2,102, or 74 per cent, were bubonic, and 734, or 26 per cent, non-bubonic cases. Of the 1,310 recoveries, 1,050, or 80 per cent, were bubonic, and 260, or 20 per cent, non-bubonic cases.

6. Of the 1,244 male deaths, 894, or 72 per cent, had bubonic, and 350, or 28 per cent, non-bubonic plague. Of the 1,152 female deaths, 852, or 74 per cent, had bubonic, and 300, or 26 per cent, non-bubonic plague. Of the 440 children who died, 356, or 81 per cent, had bubonic, and 84, or 19 per cent, non-bubonic plague.

7. Of the 480 male recoveries, 363, or 75 per cent, had suffered from bubonic, and 117, or 25 per cent, from non-bubonic plague. Of the 556 female recoveries, 453, or 81 per cent, had suffered from bubonic, and 103, or 19 per cent, from non-bubonic plague. Of the 274 children who recovered, 234, or 85 per cent, had suffered from bubonic, and 40, or 15 per cent, from non-bubonic plague.

8. Of 1,593 cases admitted for observation, 650, or 41 per cent, were diagnosed as plague.

9. Of a hospital staff numbering at various times 140 to 300 persons, 26 contracted plague and 14 died, a proportion of 50·4 per cent.

From the above it will be seen that non-bubonic cases, which were usually cases of a pneumonic type, or septic and malignant cases, showed the greatest fatality. This becomes at once evident in the following table of *the percentages of recoveries.*

	TOTAL RECOVERIES.	BUBONIC RECOVERIES.	NON-BUBONIC RECOVERIES.
	Per cent.	Per cent.	Per cent.
Males,	28	30	25
Females,	33	35	26
Children,	38	40	32

In most cases the bubonic swelling enabled a positive diagnosis to be given without hesitation. Some difficulty in pronouncing on the diagnosis occurred in those cases where tangible evidences were absent, as in cases of a non-bubonic type; statement 5 shows the important fact that plague is capable of existing in a non-bubonic form in as large a proportion as 24 per cent of cases.

A statement of the situation of buboes and their relative fatality shows that buboes were most frequent in the left femoral region. Out of a total of 3,152 bubonic cases, 869 were left femoral ones. The next most common situation was the right femoral region. This region showed 842 cases with buboes. Thus it will be seen that the right and left femoral glands were affected in 1,711 out of 3,152 cases. The next most frequent were the axillary cases, the left (307 cases) being slightly more numerous than the right (301 cases). Cervical cases showed 174 left and 176 right cases. The inguinal cases were comparatively few in number—viz., 42 left and 43 right cases. There were as many as 327 cases of multiple buboes.

The most favourable cases were those in which buboes appeared in either the right or the left inguinal region, 49 per cent of the right, and 50 per cent of the left inguinal cases recovering. The most fatal cases were the axillary cases, the recoveries being only 25 and 26 per cent for right and left axillary cases respectively. It was not found that multiple buboes meant a more fatal type of plague; indeed, the prognosis was very favourable, 47 per cent of the cases recovering.

In 70 cases the buboes appeared in unusual situations. For example, in 25 the enlargement appeared under the chin, in 16 at the bend of the elbow, in 9 on the leg, in 5 in the mammary gland, in 5 at the knee, in 3 on the arm, in 2 on the fore-arm, in 2 below the clavicle, and in one instance each on the buttock, shoulder, and popliteal space.

The more frequent complications were pneumonia, albuminuria, erysipelatous inflammation in the neighbourhood of suppurating buboes, and abortion. Pneumonia was not confined to non-bubonic plague, but was a frequent complication of the bubonic disease. There was a difference, however, in the kind of pneumonia met with in the two types. In the words of the report, "the pneumonia of non-bubonic plague was almost invariably 'patchy' and lobular, limited in extent, and not in proportion to the intense gravity of the case. In one case particularly, a very small patch of dulness in the right mammary line, not more than 2 inches in extent in any direction, but compounded with diaphragmatic pleurisy, was alone found—nothing more was ever diagnosed, although minutely looked for; the patient lived only two days." These remarks refer to the case of the nurse who contracted plague while on duty. In her case the disease began with a rigor and sense of pain all over the body. From the first there were cough and rapid respiration attended with acute chest pain. The sputum was scanty and serous. It contained the plague bacillus in large numbers, almost a pure culture of a very virulent organism being obtained on direct inoculation of agar.

The albuminuria was mostly transient. In no instance did nephritis become permanently established. Pregnant women nearly always aborted or miscarried; flooding was frequent in the abortion cases.

Of the sequelæ, the most usual were extensive sloughing of the skin and necrosis of bone. Conjunctivitis and panophthalmitis were common. Pelvic abscesses were not infrequent. The most interesting of the sequelæ was the occasional occurrence of paralysis. Paraplegia, hemiplegia, and affections of speech were the usual forms. A peculiar drawl and inability to frame certain words were often remarkable. In some cases the voice had changed considerably, resembling that of a boy at the age of puberty.

Treatment was chiefly directed against the toxic effects of the plague poison on the circulatory system. The disturbances of the heart and of the pulse in plague commonly dominate over all other toxic symptoms of the disease. Even when the patients are in the first stages of the malady (first or second day of illness), and are not obviously ill, the pulse is often very frequent (160 to 180) and compressible; the heart extremely weak, and its sounds hardly perceptible. Patients in this condition commonly die during or immediately after the disturbance attending their removal to hospital. Sphygmographic tracings taken from such cases show the following characters:—The primary elevation is extremely small; the angle on the vertex is ample; the rebound elevation is hardly visible; there are no elasticity oscillations; the rhythm is sometimes irregular. In the tracings of patients with a more typical clinical tableau, and in the third or fourth day of illness, the same facts can be read as in the others, only there is here something more—a dicrotism, which is the expression of a great laxity of the arteries.[1] These patients have restless, noisy delirium; sometimes great depression and unconsciousness. They generally die on the fifth or sixth day. Strychnine given both by mouth and hypodermically was most generally useful. Carbonate of ammonia, aromatic spirit of ammonia, and rum were also in constant use.

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[1] An interesting account of the action of the plague toxins on the circulatory system is given by Dr. Galeotti, of Florence, in the *Trans. Bombay Medical and Physical Society*, 1898, vol. ii, No. 8. It would seem that the chemical properties of the toxic substance isolated from the plague bacillus indicate this substance to be a nucleo-proteid. An investi-

Professor Lustig, of Florence, visited the hospital in July, 1897, and made a few inoculations with his curative serum, but the numbers treated were too few to allow of any criticism of this method of treatment.

Later on in the year, Dr. Haffkine made about 100 inoculations with curative serum after the manner of M. Yersin. The results of his experiments were disappointing.[1]

Two patients who were admitted with plague had been inoculated with Haffkine's prophylactic. One of them had received the injection twice at intervals of two weeks. He was inoculated in April, 1897, and contracted plague in January, 1898; after a mild illness he was discharged cured. In the other case nine months had elapsed since his inoculation. He also recovered. Both the cases were bubonic in type.

gation of the action of this poisonous proteid on the circulatory system of men infected with plague, and of animals experimentally intoxicated, was undertaken with a Baltzar registering apparatus and by sphygmographic tracings. The conclusions formulated by Dr. Galeotti after these experiments were as follows:—The poisonous nucleo-proteid extracted from the plague bacillus is able to exercise two different actions on the circulatory system—(1) an action which results from the power of the nucleo-proteid group generally to cause intra-vascular coagulation of the blood, with consequent alteration of the pressure; (2) an action which is probably specific for plague nucleo-proteid, namely, a paralysing influence on the elements of the circulatory system. It is not known which are the elements affected, whether the muscular fibres of the heart and the arteries, or the intrinsic nervous centra of the same organs, or the extra-cardial and vaso-motor centra. It is certain that there is some specific intoxication of the elements of the circulatory system.

[1] In a recent conversation with Dr. Galeotti, who is testing the further action of Lustig's therapeutic serum in Bombay, I was informed that the serum employed when Lustig first tested it was supposed not to be so effective as supplies received later, the use of which leads to the recovery of 50 to 60 per cent of the patients inoculated. It is worthy of note, however, that the Italians inject every case admitted into the experimental wards (except moribund cases); whereas Haffkine selected every alternate case, and used the mortality among the uninoculated as a basis of comparison with the results obtained among the inoculated. Haffkine found that of 61 uninoculated cases the mortality was approximately 77 per cent, and of 61 inoculated cases, approximately 80 per cent—*i.e.*, slightly higher than when the serum was not employed. It seems, therefore, that the most one can say in favour of this line of treatment is that the results recently obtained by Lustig's serum are sufficiently encouraging to justify a more extended application of the treatment. Dr. Galeotti and his assistants are at present immunising horses and preparing the curative serum of Lustig in Bombay.

ON MOVABLE KIDNEY.

By ANDREW F. GALLOWAY, M.D.,
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(*Concluded from* p. 423, vol. 1.)

Case XI.—*History of injury causing movable kidney, renal pain, emaciation, and occasional suppression of urine from torsion of artery and ureter—No tube-casts, hæmaturia, or albuminuria—Cured by operation.*

N. O., æt. 49, came under Dr. Newman's observation in 1882. Prior to this the patient, who was at one time very stout, had been emaciating. The physical signs were indicative of chronic bronchitis accompanied by slight emphysema without bronchiectasis.

The history of kidney trouble dates from the beginning of the year 1882. While out riding one day his horse stumbled, and he fell on his right side and fractured two ribs (the ninth and tenth left). He was kept in bed for a fortnight after the accident. During this time he complained of pain on the right side, immediately below the edge of the liver. The practitioner attending him at that time suspected an abscess, and treated him accordingly. While he remained in bed he did not notice any swelling or tumour on the right side, but after he got up he discovered a movable tumour seated in the hypochondriac region. At first he complained of pain in the right renal region, attended with vomiting, and sometimes followed by diarrhœa.

The pain usually came on suddenly, and lasted for five or six hours. He noticed that if he took much exercise, or if the bowels were constipated, he was more apt to have an attack. When he took to bed the symptoms soon disappeared, but, on the other hand, if he continued to take even moderate exercise the pain caused him considerable inconvenience.

He was greatly emaciated, and, for a man, the belly was loose and pendulous. Palpation of the abdomen revealed the presence of an oval swelling immediately under the lower edge of the liver, and about 2 inches from the umbilicus. The swelling could be freely moved about in the abdomen, and pushed down into the pelvis, upwards under the edge of the liver, and an inch to the left of the middle line. Percussion over the right renal region or over the swelling did not yield any satisfactory results, but when the right loin was examined, the kidney having previously been displaced, a distinct flattening could be made out. When the swelling was handled a sickening sensation was experienced, resembling, as the patient said, the pain produced when the testicle is squeezed.

No pulsation of the kidney or of the renal artery could be detected.

The only other symptom worthy of notice was the occasional sudden suppression of urine, without any very evident cause, and without any apparent relation to the position of the right kidney.

Sometimes it commenced without the organ being displaced, at least, so far as could be detected by the hand, and there was no increase in the size of the organ during the suppression. Dr. Newman supposes that the scanty secretion of urine was due to the kidney being rotated on its short axis, so that the ureter and blood-vessels were coiled round one another, and the passage of blood to and from the kidney was thereby prevented. This would lead to a very marked engorgement of the kidney on the affected side, while it might also induce reflex spasm of the blood-vessels in the opposite organ, and so bring on suppression, just as the use of a catheter may cause the excretion to cease for a time. When the secretion again became active, the urine passed did not differ from what was voided at other times.

At the time the case was considered to be one of movable kidney, with torsion of the renal artery, without much obstruction to the venous return, as shown by the sudden suppression of urine, unassociated with hæmaturia, albuminuria, or the presence of tube-casts.

When first seen the patient refused to have an operation performed, but the symptoms remained unabated till 1888, when Dr. Newman performed nephrorraphy with a good result.

The above case is one of great interest. As regards its etiology, there are several points to be observed. The history is that, prior to the onset of the kidney mischief, the patient had been losing flesh considerably. This in itself, we have seen, is a predisposing, if not an exciting, cause of movable kidney. In addition, he suffered greatly from chronic bronchitis, and the severe coughing necessarily associated with this condition would tend to still further stretching and weakening of the renal attachments. Lastly, we have the history of the acute injury caused by being thrown from his horse. This latter, it seems to me, must be regarded as the exciting cause, and the two former conditions the predisposing causes of the movable kidney.

The history of acute pain accompanied by suppression of urine is somewhat similar to what we have already noted in the three previous cases recorded.

The only other symptom to be noted is the absence of blood, albumen, and tube-casts from the urine passed after an attack, and this fact has been considered by Dr. Newman to be due to the renal artery being the chief structure occluded.

CASE XII.*—*Left movable kidney causing torsion of the renal blood-vessels—Albuminuria, tube-casts, severe pain, and suppression of urine—No hydronephrosis—Operation—Cure.*

J. D., æt. 41, married, and has a family of nine children. She was at one time very stout, but during the last three years has been steadily emaciating. She first complained of pain in the left kidney in 1887, and when Dr. Newman saw her first, in 1894, she was greatly reduced in weight. The abdominal walls were flaccid, and she complained of almost continual pain located in the left lumbar region. At irregular intervals most severe paroxysms of pain set in, and these lasted from three to seven hours, and were accompanied by sickness, nausea, and vomiting. During an attack she always lay on her left side. In one or two instances, after the paroxysms had passed off, the patient suffered from undue excitability, severe and persistent headache, and dimness of vision, pointing probably to some uræmic poisoning. On examination of the abdomen the left kidney could be distinctly felt freely movable within the abdomen, and could be pushed upwards under the left costal cartilages, across the middle line in front, and down into the pelvis. Handling of the kidney produced considerable pain, accompanied by sickness. This pain differed in character from that usually felt during a paroxysm. The patient was kept under observation for many months, and although advised to have an operation performed, refused until November, 1895, when Dr. Newman performed nephrorraphy. The result was quite satisfactory, and the patient reported herself well, January, 1897.

The point of chief interest in this case is the occurrence of symptoms of uræmic poisoning during a paroxysm of pain. This is the first mention we have made of this symptom, which is occasionally found in cases of movable kidney. The explanation of this is easy if we consider when uræmia occurs. It occurs, according to Cohnheim,[11] when there is retention of urinary constituents, and this retention may be due to ligature of the renal arteries. Now, if the renal artery become twisted, as in movable kidney, the result will be the same as if it were ligatured. We have already seen, moreover, that interference with the blood-supply of one kidney causes frequently reflex inhibition of the opposite kidney, and consequently total suppression of urine with its attendant symptom, uræmia.

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* Recorded by Dr. Newman in vol. xxix of the *Clinical Society's Transactions.*

We will see later that the same symptom sometimes occurs from obstruction of the ureter in cases of movable kidney.

We will now pass on to consider the effect of displacement or mobility of the kidney on the ureter. Newman states that obstruction to the escape of urine through the ureter may take place in cases of movable kidney in three ways:—"(1) The displacement of the kidney may consist of a rotation of the organ on its short axis, so that the ureter is twisted round the vessels; (2) there may be a sudden bending or kinking of the ureter at any part of its course; or (3) there may be an angular insertion of the ureter into the bladder."

With regard to the first of these conditions little need be said. It will be at once evident that when the kidney becomes rotated the ureter will be twisted not only on itself but around the vessels which form with it the pedicle of the kidney. This will result in narrowing, or, in many cases where the torsion is extreme, in completely occluding the lumen of the ureter. This condition is analogous to the torsion of the renal vessels which has been described above. With regard to the second condition—the kinking of the ureter—some explanation is needed. We have stated above that this may occur at any part in the course of the ureter, but probably its most frequent seat is just at the origin of the ureter from the pelvis of the kidney.

Normally the ureter arises from the lowest part of the pelvis of the kidney, and there is thus a free passage for the flow of urine when the person is in the erect posture.

But in cases of movable kidney the organ frequently slips down from its normal position. Now, should this occur, it is clear that the relation of the ureter and kidney will be altered materially. The ureter will be curved at a somewhat acute angle, and its lumen will come to communicate not with the *lower* part of the pelvis of the kidney but the *upper*. The result of this will be that the pelvis of the kidney will require to be filled with urine up to its highest level before any can pass into the ureter.

Cases of obstruction to the outflow of urine from this cause have been quoted by Cohnheim and many others, although the most of these writers have considered the origin of the ureter from the upper part of the renal pelvis to be congenital. Kinking of the ureter in any other part of its course will cause the same obstruction to the outflow of urine by narrowing the lumen of the tube.

With regard to the third condition—angular insertion of the ureter into the bladder—this has long been reçognised as a cause of obstruction to the outflow of urine, and if this condition be present it will be aggravated by the dragging on the ureter which ensues in cases of movable kidney. These being the conditions giving rise to obstruction, we have now to consider the results of this obstruction.

A good description of the results of obstruction of the ureter is given by Cohnheim.[15] He states that when the ureter springs from the upper part of the pelvis of the kidney it is impossible for the urine to enter it while the body is in the erect posture until the pelvis has been filled to the level of the ureter. The pelvis, moreover, is bounded by a yielding and distensible wall, which will gradually dilate under the influence of the accumulated urine till the size of the sac when full allows of its completely compressing the ureter, which lies upon the pelvis as it passes downwards. When, however, a person with such a condition of the kidney assumes the recumbent posture, the urine will flow uninterruptedly from the sac into the bladder.

The above is an exact description of what occurs frequently in cases of movable kidney. When displacement occurs, the outflow of urine through the ureter becomes obstructed by the change which takes place in the relations of the ureter and the pelvis of the kidney. This results in distension of the pelvis, as described above. When, however, the patient assumes the recumbent posture, and the kidney slips back into its normal position, the normal relation of the ureter and the renal pelvis is restored, and the flow of urine becomes re-established.

Again, when kinking of the ureter occurs at any other part of its course, the urine collects behind the obstruction. The tension in this part of the ureter gradually rises, and the section of the ureter above the kink is gradually elevated. When this part is raised sufficiently, the urine is able to pass the obstruction. This re-establishment of the flow, however, results in a fall in the tension, and the kink reforms, and so on. When, however, the kidney falls back into its normal position, the kink is removed for the time being, and the flow of urine is unimpeded.

Again, supposing the obstruction of the ureter to be due to torsion, the result will be the same, viz., a distension of the portion of the ureter behind the point where torsion has occurred, and a distension also of the pelvis of the kidney; in other words, a *hydronephrosis.*

Now, in cases of movable kidney, the obstruction of the ureter from kinking or torsion is liable to occur suddenly, and to pass off as soon as the kidney is allowed to resume its normal position. This means that the hydronephrosis will only persist for a comparatively short time, and this is what has been termed *transitory hydronephrosis.*

But it has been proved that it is in cases where the obstruction to the outflow of urine is not permanent, but alternates with periods of non-obstruction, that the most extreme degrees of hydronephrosis are found; hence it is that in many cases of movable kidney with hydronephrosis the size of the swelling is very great.

When, moreover, the obstruction is not permanent, the secretion of the affected kidney is never completely and permanently suppressed, and when the obstruction is removed the pressure on the glomeruli is at once relieved, and, as a result, there is a copious secretion of urine of low specific gravity.

Thus, one of the characteristic signs of transitory hydronephrosis is a sudden appearance and an equally sudden subsidence of the swelling, and a copious discharge of urine of low specific gravity. This latter characteristic of the urine at once distinguishes the condition from that found in obstruction to the renal vessels, where, as we have seen, the urine passed is of high specific gravity. Frequently, however, the urine contains a trace of albumen and a few hyaline casts. This is due to the fact that, as has been proved by experiment, when the ureter is occluded there results a mechanical hyperæmia of the affected kidney. Now, hyperæmia of the kidney is manifested by the appearance of albumen in the urine.

We will now consider briefly the symptoms to be expected in a case of obstruction of the ureter, and these symptoms will be illustrated as far as possible by typical cases.

The history usually given is that the patient is suddenly seized with severe pain, accompanied by diminution, or in some cases even suppression, of the urinary excretion. At the same time there rapidly appears a large swelling in the region of the affected kidney. This lasts for a variable length of time, but after rest there is a more or less sudden discharge of a large quantity of urine of low specific gravity. This is followed by rapid subsidence of the swelling and abatement of the pain.

The pain may be accompanied by sickness, vomiting, rigors, and all the symptoms of renal colic.

Occasionally the urine passed after an attack will contain a small quantity of albumen. The only point that needs explanation is the cause of the total suppression of urine which sometimes occurs. Whether this is due to a reflex spasmodic contraction of the ureter on the opposite side, or to a general contraction of the arterioles of the opposite kidney, is still a subject of discussion, but probably both contribute to the result.

CASE XIII.*—*Right movable kidney—Transitory hydronephrosis.*

Mrs. M., æt. 31, admitted to the Glasgow Royal Infirmary on 22nd January, 1895, to see Dr. Newman.

Patient complains of pain in the right side of abdomen and occasional swelling in this region, these symptoms being of five years' duration.

Patient was married at the age of 24, and has had six children. Until five years ago she enjoyed good health. At that time she fell downstairs and struck her right side on a large stone. She was pregnant at the time, and she suffered continuous pain both at the seat of injury and elsewhere in the abdomen for three weeks, at the end of which time she had a miscarriage. After this the pain was much easier for about three weeks, when it reasserted itself, and became more severe than it had been before. Since then it has been more or less constantly present, and is confined to the region of the right kidney. She is unable to do any hard work, as, if she attempts to do washing or any work necessitating bending or stretching of the body, the pain becomes very severe. She has suffered frequently from indigestion and vomiting. During the past five years she has had three pregnancies, and the pain was always worse at these times.

She is herself conscious of a movable mass in the right loin. When this is palpated she complains of a sickening pain. She frequently has attacks of diarrhœa, and movement of the bowels is associated with increase of pain. Micturition also is accompanied by pain both at the tumour and the vulva. At times the quantity of urine passed becomes greatly diminished, and this is associated with a marked increase in the size of the swelling and in the degree of pain.

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* This report is taken from the ward journal.

These periods are of varying duration, and are followed by a sudden marked increase in the quantity of urine passed, with a corresponding decrease in the swelling and pain.

CASE XIV.*—*Right movable kidney, with transitory hydronephrosis from kinking of the ureter, cured by the operation of nephrorrhaphy.*

C. G., æt. 34, single, admitted to the Glasgow Royal Infirmary on the 1st November, 1895, complaining of a dull aching pain in the right loin, which commenced five years ago. This pain is almost constantly present, and has been gradually increasing in severity. In addition, she frequently has paroxysmal attacks of severe colicky pain.

During these acute attacks the patient is herself able to feel a distinct swelling in the right lumbar region. This is very tender on pressure.

These paroxysmal attacks have become more frequent, and now occur nearly every second day.

While the swelling was increasing, the urine was scanty and highly coloured, and of high specific gravity. Suddenly a copious flow of pale-coloured urine took place, the swelling subsided, and the pain was at once relieved. While the hydronephrosis was increasing the patient was generally compelled to go to bed; but very soon she was unable to lie in the recumbent posture, and had to sit up with the thighs flexed on the abdomen, and the chest thrown well forward in order to relieve pressure. On examination of the abdomen between the attacks, the walls were found to be very lax. When the patient lay on her back a distinct bulging was observed in the right lumbar region. This, on palpation, was found to be quite soft; but firm pressure elicited pain over a considerable area, extending from the crest of the ilium to the ribs, and as far forward as the middle line.

It is noted that since her admission to hospital the worst attack occurred on the 12th November. The paroxysm of pain began at 5 A.M., and continued until 10 P.M. Towards the end of this period the pain became so agonising that morphia had to be administered. About 10 P.M. there was a copious discharge of urine (1,000 c.c.), the first passed since 6 A.M. This was followed by immediate abatement of the symptoms.

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* Cases XIV, XV, and XVII have been recorded by Dr. Newman in vol. xxix of the *Clinical Society's Transactions.*

During the paroxysm of pain the swelling could be felt about 2 inches to the left of the middle line, between the umbilicus and pelvis, and extending downwards in the right iliac fossa to within 1½ inch of Poupart's ligament.

During the intervals between the attacks of pain the right kidney was found to be freely movable, with the excursion ranging from the position of the gall-bladder above to within 4 inches of the symphysis pubis below; at the level of the umbilicus the kidney could be pushed 1½ inch across the middle line.

The following is a note of the characters of the urine before, during, and after an attack:—

Date.	Quantity.	Sp. Gr.			
1895. Nov. 13, 3 P.M.	13 oz.	1016	Acid.	No albumen.	
,, ,, 9 P.M.	11 ,,	1014	Do.	Do.	Pain set in.
,, 14, 11 P.M.	40 ,,	1007	Do.	Do.	Pain relieved.
,, 15, 6 A.M.	6 ,,	1010	Do.	Do.	Do.
,, ,, 2 P.M.	13 ,,	1016	Do.	Do.	Do.
,, ,, 9 P.M.	7 ,,	1016	Do.	Do.	Do.

Dr. Newman considered the case was clearly one of transitory or intermittent hydronephrosis, due to torsion of the ureter, when the right kidney became displaced. He performed nephrorraphy on the 26th November, 1895, and since then there has been no recurrence of the pain, nor has any accumulation of urine been observed in the pelvis of the kidney.

A point to be noted in the above case is the position assumed by the patient during an acute attack. When hydronephrosis occurs, it will be found in nearly all cases that the patient is unable to remain in the recumbent posture, but sits up in bed, with the knees flexed on the abdomen, and the thorax inclined forward.

This occurred in the following case, which has been recorded by Dr. Newman:—

CASE XV.—*Movable kidney—Transitory hydronephrosis—Suppression—No tube-casts, but intermittent albuminuria—Cure by operation.*

M. H., æt. 35, a housemaid, enjoyed good health until January, 1889, when she commenced to complain of vague pains, as she thought, in the region of the stomach; but these were not so severe as to interfere with her regular work. She, however, gradually became thin and anæmic; steadily the pain increased, and after a time it became complicated by dyspeptic symptoms, such as nausea, severe attacks of vomiting, diarrhœa, and occasional constipation. When first seen by Dr. Newman in November, 1891, she had developed all the characteristic symptoms of movable kidney on the right side, and on palpation the right kidney could be easily made out. It could be made to move almost to the umbilicus, up under the ribs, and down into the iliac fossa. At first occasionally, but afterwards more frequently, she had more or less sudden attacks of severe pain associated with sudden diminution in the urinary secretion, sometimes amounting to total suppression. This apparent suppression was coincident with a rapid increase in size of the movable tumour in the abdomen, and also with severe paroxysms of pain, which lasted until the swelling was suddenly relieved by the escape of a large quantity of watery and slightly albuminous urine. At all times she suffered from more or less dull aching pain in the loins, extending at times over the whole abdomen, and sometimes down as far as the right knee. This pain differed entirely from what was experienced during an attack. The paroxysmal pain did not last more than six or eight hours, and while it lasted the patient was unable to lie in bed, but nearly always occupied a sitting posture, at first almost erect, but when the hydronephrosis attained a large size she would bend the chest forwards over the abdomen and elevate the knee so as to relieve pressure.

These symptoms were accompanied by sickness and vomiting. The following is a note of the condition of the urine before, during, and after one of these attacks:—

Date.		Quantity.	Sp. Gr.	REMARKS.
1889.				
May 7,	8 A.M.	5 oz.	1016	Acid; no albumen.
,,	12 noon.	16 ,,	1014	Do. do.
,,	4 P.M.	6 ,,	1026	Severe pain; trace of albumen till 8 P.M. on the 8th May.
May 8,	8 P.M.	36 ,,	1008	Pain gone; trace of albumen.
,,	9 P.M.	4 ,,	1012	No pain; no albumen.
,,	11 P.M.	6 ,,	1014	Do. do.
May 9,	1 A.M.	5 ,,	1012	Do. do.

Nephrorraphy was performed in this case with a good result.

The following case is taken from Dr. Newman's ward journal:—

CASE XVI.—*Right movable kidney—Transitory hydronephrosis—Symptoms of uræmic poisoning.*

Mrs. Y., æt. 30, admitted to the Glasgow Royal Infirmary on 20th June, 1894.

Patient states that she enjoyed good health until her last confinement two and a half years ago. During the six months following this, she says, her health was bad, and she was troubled with symptoms of gravel, and had some trouble with her urine. She had pain on micturition, but had no pain in the back.

Two years ago she first began to complain of pain in the lumbar region of the spine, and this has steadily got worse. She describes it as being of a dull, aching nature, and it came on usually in paroxysms. Towards the end of an attack the pain became of an acute colicky character. These attacks usually lasted for about three days.

During the attack she passed very little urine, but after poulticing, urine was passed in large quantities, and the pain was at once relieved. These attacks came on at first every six or eight weeks, but during the past year they have occurred at intervals of about three weeks. In the intervals she feels weak and ill. About a year ago she first noticed a lump in her right lumbar region. This steadily increased in size during an attack, but subsided after the copious discharge of urine had taken place.

During the paroxysms she suffered from sickness and vomiting. There was a premonitory period, lasting for about two days, during which she felt ill, appeared haggard and slightly jaundiced, and complained of aching pains in the limbs. Dimness of vision, persistent headache, and lethargy were present during the periods of temporary suppression, pointing to uræmic poisoning.

The attacks had no relation to her menstrual periods, but were often brought on, she says, by hard work, such as washing or scrubbing floors.

The chief point of interest in the above case is the presence of symptoms of uræmic poisoning. This is the first of the cases of hydronephrosis we have referred to in which this has been present, although in Case XII, where torsion of the renal vessels took place, these symptoms were also present.

In addition to the above cases, reference should be made to the case of Mrs. K. (Case I), where the symptoms clearly pointed to the occurrence of transitory hydronephrosis.

The last case to be quoted is one in which torsion both of the ureter and renal vein occurred, giving rise to hydronephrosis, albuminuria, and the presence of tube-casts in the urine.

CASE XVII.—*Right movable kidney causing torsion of the ureter and renal vein, and leading to hydronephrosis, albuminuria, and the presence of tube-casts—Operation—Cure.*

The patient, Miss A., came under Dr. Newman's observation at the beginning of 1895. The history of the case, the physical signs, and the symptoms all pointed to right movable kidney of some years' duration. The patient was anæmic and emaciated, and it was considered desirable, before an operation was performed, to try the effect of complete rest in bed. This was continued for three months, with comparatively little success, and it was resolved to perform nephrorraphy early in May. Frequent examinations of the urine were made during the first three months of the year, and on all occasions it appeared to be strictly normal. The day previous to the one on which the operation was arranged for a careful examination was made of the kidney, when it was found to be swollen and unusually tender; and when the urine was examined, it was discovered for the first time to contain a considerable amount of albumen, and some hyaline and finely granular tube-casts; but these were not found in the deposit, but only when separated by a centrifugal machine. On account of the albuminuria and the presence of tube-casts in the urine the operation was postponed, and all the samples of urine were carefully examined, as shown in the following table:—

Date.	Quantity.	Sp. Gr.	REMARKS.
1895.			
Apr. 29, 9 A.M.,	9 oz.	1023	Acid; considerable albumen and tube-casts; pain severe.
Apr. 30, 8 A.M.,	7 ,,	1023	Do. do.
,, 12 Noon,	10 ,,	1019	Acid; trace of albumen; pain much less; tube-casts.
,, 4 P.M.,	13 ,,	1010	Do. do.
,, 9 P.M.,	6 ,,	1015	Acid; no albumen; no tube-casts.
May 1, 2 A.M.,	17 ,,	1009	Do. do.
,, 7 A.M.,	13 ,,	1009	Do. do.
,, 1 P.M.,	10 ,,	1013	Do. do.
,, 9 P.M.,	7 ,,	1014	Do. do.
May 2, 6 A.M.,	10 ,,	1010	Do. do.

At first the possibility of a nephritis being present was considered, but as no symptoms beyond the albuminuria and the presence of the tube-casts could be discovered, the course of the urine was carefully watched to see if any other explanation of the albuminuria could be discovered.

With the onset of paroxysmal pain, sometimes there was present hydronephrosis, sometimes it was absent or not observable; but high specific gravity of the urine, albuminuria, and tube-casts always appeared at such times, and disappeared at the same time as the pain. Since the operation was performed no albumen or tube-casts have been found.

We have now discussed in detail the *subjective symptoms* of movable kidney, but there still remain a few words to be said on the subject of *physical signs.*

As might be expected, these vary greatly in individual cases. If, for example, the patient be a well-developed, muscular, and stout man, it may be difficult, or even impossible, to gain any information from physical signs. If, however, the patient be thin and emaciated, with lax abdominal walls, the physical signs may be easily elicited.

Inspection.—As a rule, little can be distinguished by this means. If the patient be thin, the outline of the movable kidney may occasionally be seen. Where also there is a considerable degree of enlargement of the kidney, from congestion or hydronephrosis, the swelling may be quite apparent. We have seen this in several of the cases we have recorded.

The flattening of the lumbar region observed when the kidney is displaced has been described by Landau[1] as "an untrustworthy and exceptional sign."

Percussion.—Much has been made of the value of this sign by many writers. Rollet,[16] Trousseau,[17] and others have stated that the note over the side corresponding to the displaced kidney is clearer and fuller than on the other side. The same view is held by Guttmann,[18] while Piorry[19] claims to have percussed out the smallest degree of change in the size of the kidney.

On the other hand, Landau and Wiel[20] have failed to detect any difference in percussion even after the removal of a kidney, while Skoda[21] states that "the size of the kidney has very little to do with the state of the resonance in the lumbar region."

In the face of so much difference of opinion, it must be admitted that the facts elicited by percussion are of little practical diagnostic value in cases of movable kidney.

Palpation.—This method of examination undoubtedly yields by far the most reliable results. Even here, however, much depends on the individual. We have seen in several cases that no positive results were obtained by palpation when the patient was well developed and the muscular resistance great. In the majority of cases, however, careful bimanual palpation will reveal the presence of a movable mass in the loin. Pressure on this will usually elicit a sickening sensation. When fixed by the hands it can usually be made to travel towards the middle line, as well as up under the ribs and downwards towards the pelvic cavity. If the abdominal walls be lax and the patient thin, there will usually be no difficulty in making out the smooth outline of the tumour and the characteristic notch—the hilum. The tumour can be felt passing downwards during deep inspiration, and ascending during deep expiration. It can also be noted that its position varies with changes in the position of the patient.

In many cases of movable kidney a marked degree of epigastric pulsation is appreciable, and occasionally, as in Case III, pulsation of the renal artery may be felt on palpation.

DIAGNOSIS.

There are perhaps few diseases which have given rise to so many errors in diagnosis as the condition under discussion. This in many cases is probably due to medical men overlooking the possibility of this condition being present.

Undoubtedly, in some cases the subjective symptoms may be so indefinite, and the physical signs so unreliable, as to render accurate diagnosis difficult or even impossible. We have seen in some of the cases quoted above that it was only after an exploratory incision had been made that the diagnosis was definitely established. As a rule, however, a careful study of the symptoms and physical signs, as detailed above, will lead to a ready appreciation of the true nature of the case.

The points to be specially noted are the history of onset, the constant dull aching pain increased by exertion and relieved by rest, the paroxysms of acute pain, the interference with the urinary secretion, the presence of a movable tumour and its characteristic renal form.

It is unnecessary to refer here to the many conditions which are recorded as having given rise to errors in diagnosis. These will be found in detail in the writings of Landau and others.

TABL

CASE.	AGE.	SEX.	OCCUPATION.	KIDNEY AFFECTED.	SYMPTOMS.
I.	56	F.	Housewife.	Right.	Transitory hydronephrosis; suppression of urine; gastric symptoms.
II.	53	M.	Sea captain.	Right.	Severe paroxysmal pain; kidney enlarged and gorged with blood.
III.	26	F.	Housewife.	Right.	Dull aching pain.
IV.	55	F.	...	Right.	Dull boring pain.
V.	31	F.	Housewife.	Right.	Dull aching pain, increased during menstruation; gastric disturbance.
VI.	47	F.	...	Right.	Dull pain; gastric disturbance.
VII.	44	F.	Nurse.	Left.	Dull pain, increased during menstruation; gastric disturbance.
VIII.	41	F.	Housewife.	Right.	Dragging pain, increased during pregnancy. Headache; diarrhœa; weakness.
IX.	50	M.	Ironmoulder.	Left.	Severe renal pain; hæmaturia; albuminuria.
X.	40	M.	Marine engineer.	Right.	Severe pain; hæmaturia; torsion of renal vessels and ureter.
XI.	49	M.	...	Right.	Suppression from torsion of vessels and ureter; renal pain.
XII.	41	F.	...	Left.	Torsion of vessels; severe pain; suppression; albuminuria; tube-casts.
XIII.	31	F.	...	Right.	Transitory hydronephrosis; pain; gastric disturbance.
XIV.	34	F.	Nurse.	Right.	Transitory hydronephrosis; severe pain.
XV.	35	F.	Housemaid.	Right.	Severe pain; gastric disturbance; transitory hydronephrosis; albuminuria.
XVI.	30	F.	Housewife.	Right.	Transitory hydronephrosis; renal pain; uræmia.
XVII.	...	F.	...	Right.	Transitory hydronephrosis; albuminuria; tube-casts; torsion of ureter and renal vein.

OF CASES.

CAUSE ASSIGNED.	DURATION.	TREATMENT.	RESULT.	REMARKS.
Injury: Spinal Caries?	24 years.	Rest.	Relief.	Married, 2 children.
Injury.	5 years.	Nephrorraphy.	Cure.	...
Pregnancy?	2 years.	Rest.	Relief.	Married, 2 children.
Strain.	4 years.	...	...	...
...	6 years.	Nephrorraphy.	Cure.	Married, 4 children.
...	12 years.	Elastic bandage.	Relief.	Married.
Strain.	3 years.	Nephrorraphy.	Cure.	...
...	27 years.	Rest.	Relief.	Married, 10 children in 14 years; pain increased by each pregnancy.
Strain?	Over 3 years.	Nephrorraphy.	Cure.	...
Injury.	4 years.	Nephrorraphy.	Cure.	...
Injury.	6 years.	Nephrorraphy.	Cure.	...
...	8 years.	Nephrorraphy.	Cure.	Married, 9 children.
Injury.	5 years.	...	...	Married, 6 children in 7 years.
...	5 years.	Nephrorraphy.	Cure.	Unmarried.
...	2 years.	Nephrorraphy.	Cure.	Unmarried.
...	2½ years.	Rest.	Relief.	Married, 3 children.
...	Several years.	Nephrorraphy.	Cure.	Unmarried.

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AN UNUSUAL CASE OF TRAUMATIC SEPARATION OF EPIPHYSES.

By JAMES BATTERSBY, M.R.C.S. Eng., L.R.C.P. Lond.,

Senior Demonstrator of Anatomy, St. Mungo's College, Glasgow; late House Surgeon, Glasgow Royal Infirmary.

The case, details of which are given, was admitted under the care of Mr. H. E. Clark, senior surgeon to the Glasgow Royal Infirmary, who has kindly allowed me to report it. Its particular interest lies in the fact that, according to Mr. Poland in his recent work on *Traumatic Separation of Epiphyses* (p. 880), no instance of the form of separation found in this case has been recorded.

On the morning of 3rd November, 1898, the patient, a lad aged 14, while at work in a coal mine in the vicinity of Glasgow, was buried underneath a fall of coal from the roof. On admission, three hours later, he was found to have sustained a compound fracture of the left leg, numerous bruises of the trunk and right arm and leg. His general condition of collapse was indicative of internal hæmorrhage. On further examination, a large hæmatoma was found in the right loin, extending from the lowest rib to the iliac crest; a catheter was easily passed, drawing off clear urine. Mr. Clark saw the patient, and was of opinion that the right kidney had probably been ruptured, but found him too much collapsed to permit of any operative interference.

Transfusion of saline solution was performed; patient, however, gradually sank, and died seven hours after the accident.

At the *post-mortem* examination no rupture of any internal organs was found. I carefully examined the vessels entering the right kidney, and found them intact. No injury to large abdominal vessels was discovered. A large retroperitoneal blood extravasation, infiltrating the lumbar muscles and fasciæ, was present. A solution of continuity of the four lowest right ribs was found, which at first sight looked like fracture. The lesions, however, seemed unusually close to the bodies of the vertebræ, and on closer examination I found that the heads of four ribs had been separated at the epiphyseal line. The separated rib heads were entirely cartilaginous, ossification not commencing here until after puberty. One of the ribs, which I have retained, has been seen by Mr. Clark, who agrees with me regarding the separation. The right lumbar transverse processes were broken off about midway between the base and tip.

It would seem that the hæmorrhage had proceeded from laceration of the lumbar and ascending lumbar veins, which latter vein normally passes upwards in front of the transverse processes of the lumbar vertebræ, *i. e.*, in the line of fracture running across these transverse processes.

Finally, I would remark that, in regard to symptoms and physical signs, this case simulated one of ruptured kidney.

REPORT ON THE BACTERIOLOGICAL EXAMINATION OF PAISLEY WATER IN CONNECTION WITH THE RECENT EPIDEMIC OF ENTERIC FEVER IN THAT TOWN.[1]

BY R. M. BUCHANAN, M.B.,
Professor of Medical Jurisprudence, Anderson's College, Glasgow;
Dispensary Physician, Western Infirmary, &c.

(*From the West of Scotland Clinical Research Laboratory.*)

THE circumstances which attended the recent outbreak of typhoid fever in Paisley having led you to believe that the infection was disseminated in certain areas by means of the water-supply, I undertook, at your request, a bacteriological examination of samples of the suspected medium.

Early in the course of this examination results betokening sewage pollution of the water were obtained, and, being considered of urgent significance and importance, were communicated to you in an interim report dated 12th October.

I am now in a position to place before you a more detailed report. It is unfortunate that in an examination of such vital importance to a community so much time should elapse before a final report can be submitted, but the large number of cultivation experiments and other exceedingly delicate tests which it demands make prolonged delay unavoidable.

The methods and results of the examination are so intimately related to the behaviour of the typhoid bacillus in water, and to its constant association in that medium with other bacilli, that the following prefatory references are considered to be essential to this report. The history of typhoid epidemics indicates very clearly that water is unquestionably the most common carrier of the specific infection—the bacillus typhosus. In only a few instances, however, has this bacillus been isolated with certainty from suspected water. The most careful examination has frequently failed to reveal its presence in waters which beyond any reasonable doubt were the means of spreading the disease. This apparent want of success is often quoted as a reflection on the adequacy of our present bacteriological methods. But the matter does not depend so much upon methods of investigation as upon certain characteristics of the bacillus itself. It is well known, for example, that the bacillus will retain its vitality in water for several weeks provided it does not come into competition with certain other species, and that, on the other hand, it will disappear in the course of a few days if other bacteria which can outgrow it happen to be present. From this it is evident that the long incubation period of typhoid fever—two to three weeks—allows ample time for the typhoid bacillus to disappear from a temporarily polluted water before any widespread epidemic shows itself. Further, there is evidence afforded by recent bacteriological investigations that the typhoid bacillus becomes modified as the result of vegetative proliferation outside the body, the varieties so formed no longer reacting with absolute precision to all the exceedingly delicate tests which serve to distinguish the true virulent bacillus of typhoid fever.

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[1] This report was sent to Dr. Archibald Donald, Medical Officer of Health, Paisley, with whose kind permission it appears in this *Journal.*

A circumstance which also greatly influences the typhoid bacillus in specifically polluted waters is its intimate association with a closely allied organism—the bacillus coli. The bacillus coli, as a constant inhabitant of the alimentary canal of man, naturally accompanies the bacillus typhosus in the ejecta of typhoid patients, and of necessity accompanies it also in the pollution of drinking-water. In its general characteristics the bacillus coli very closely resembles the bacillus typhosus. It shows, however, greater vitality and adaptability under the conditions of life outside the body, and thereby tends rapidly to outgrow and exterminate the bacillus typhosus in such a medium as water. The bacillus coli, like the bacillus typhosus, also becomes modified as the result of vegetative proliferation under varied conditions of growth, and it shows a remarkable tendency to form varieties in this way. As many as twenty-two forms or varieties have been distinguished in various media, such as sewage, polluted water, and excrement.

There is, consequently, a large number of organisms having a close family resemblance to the bacillus typhosus on the one hand, and to the bacillus coli on the other, whose natural habitat, so to speak, is sewage and kindred media. They are spoken of collectively as "coliform" bacilli, but the term "pseudo-typhoid" is also used by some bacteriologists to designate the varieties which conform the more nearly to the bacillus typhosus. The presence, then, in a drinking-water of these coliform bacilli in any considerable number naturally affords very strong evidence that the water has been open to sewage pollution, and therefore to the possibility of conveying typhoid infection. In a specifically polluted water one or two of these bacilli may usually be met with, and, like the bacillus coli itself, they tend to outgrow and suppress the bacillus typhosus.

It will thus appear that the methods which have been employed in the examination of the samples have been directed not only to a search for the specific bacillus of typhoid fever, but to a search also for its associates, the bacillus coli and the so-called coliform or pseudo-typhoid bacilli.

The samples.—The samples of water were taken on 13th September from wells at No. 3 Garthland Street, No. 16 Incle Street, and J. M'D.'s house, East Buchanan Street. They were collected with especial care in the early morning, and submitted for examination on the same day. In each of these streets there was a very remarkable grouping together of typhoid cases. It was noted that the water-supply in the area containing these streets was frequently intermittent, and that in each of the streets it was distributed from a terminal branch with the terminal end retroverted into the sewer for flushing purposes. The condition of the water-pipes in this area was also noted to be far from satisfactory.

This focal incidence of the epidemic, and its relation to a water-distribution with so many apparent defects, determined the choice of the points at which the samples were taken.

Methods of examination.—Methods were at once employed which were known to provide conditions favourable to the growth of the typhoid bacillus, the colon bacillus, and the other nearly allied forms—the coliform or pseudo-typhoid bacilli. It will be necessary to refer to two of these methods in detail, and to make brief allusion to a third.

1. *The gelatine plate method.*—Ordinary nutrient gelatine was inoculated with 0·2 c.c. water from the samples.

At room temperature a large number of colonies—liquefying and non-liquefying—appeared in two to four days. By enumerating these colonies it was computed that the total number of aërobic organisms in 1 c.c. of water amounted to about 420 in the Garthland Street sample, 360 in the Incle Street sample, and 100 in the East Buchanan Street sample.

This variation in the total bacterial content is remarkable, considering that the samples, though taken at different points, are from the same water-supply. The numbers in the first two samples are distinctly excessive, but as the mere number of organisms in a water is apt to be influenced by so many conditions, no definite significance can be attached to this observation by itself.

The ratio of liquefying to non-liquefying organisms was estimated at about 10 to 1 in the first sample, 1 to 2 in the second, and 3 to 1 in the third. The normal average ratio in drinking-water is about 1 to 10, and any great increase in the liquefying bacteria is generally accepted as an indication of sewage pollution. This ratio in the samples thus appears also distinctly excessive, and the excess is so notable in the Garthland Street sample that, taken together with its high bacterial content, it attaches to this water suspicion of a localised pollution.

The liquefying colonies comprised species ordinarily met with in drinking-water, and accordingly no further notice was taken of them in detail.

Attention was specially given to the non-liquefying colonies. These were carefully scrutinised, and any having resemblance to the bacillus typhosus or its associate, the bacillus coli, were at once transplanted to other nutritive media favourable to their growth and to the development of their distinguishing characteristics.

By means of this preliminary test-method, four distinct species of bacilli were isolated from the samples bearing resemblance to the colon bacillus. This resemblance was subsequently found by the application of further tests to be only superficial in the case of three of these bacilli. In the case of the remaining bacillus, which was isolated from the East Buchanan Street sample, its affinity to bacillus coli became more and more marked with succeeding tests, which finally placed it in the group of coliform bacilli. Thus, it was found to conform to the bacillus coli in its shape, size, and motility; in its growth as exhibited in phenol-bouillon, gelatine, agar, potato, glucose-gelatine, and litmus-bouillon, and in the number of its flagella, and was only found to vary from it in want of power to produce indol and to clot milk. It is interesting to observe that these are the characteristics which the bacillus coli tends first to lose in its growth in external media.

2. *Phenol-bouillon method.*—This method allows of the examination of larger quantities of the suspected medium, and is designed to suppress the more delicate and more abundant organisms, while allowing typhoid and colon bacilli, or their allied forms if present, to grow without hindrance.

Bouillon containing ·05 per cent of phenol as the inhibiting agent was inoculated with 0·3 c.c. of water from the samples and incubated at 37° C.

By means of this method another bacillus was isolated from the East Buchanan Street sample, conforming in all but two points to the bacillus typhosus. Thus, it was found to agree with the typhoid bacillus in its form, size, and active motility;

in its growth as exhibited in gelatine, agar, phenol-bouillon, litmus-bouillon, milk, and glucose-gelatine; in its non-production of indol, and in its positive reaction to Widal's test; and was found to vary from it only in its growth on potato and in the number of its flagella (one to two). (The true typhoid bacillus has an average of about ten flagella.)

The serum reaction (Widal's test) obtained with this organism was remarkably distinct and perfect, and quite as strong as with the typhoid bacillus itself. This test has been put forward, you are aware, as one of the most distinctive and most reliable for the typhoid bacillus. In spite of this test, however, the small number of flagella carried by the bacillus which I have isolated prevents it being accepted as the true typhoid bacillus, and relegates it among the pseudo-typhoid forms.

3. *Abba's method.*—By this method large quantities of the samples were dealt with. The conditions of growth provided by the nutritive medium in this method tend to favour the bacillus coli rather than the bacillus typhosus, and in consequence of this its usefulness is limited in an investigation such as the present. It gave very definite indications of the presence of colon bacilli in all the samples, the indications being especially pronounced in the case of the Incle Street sample.

Conclusions.—It has been shown that the bacillus of typhoid fever is subject to certain conditions which render its isolation from a suspected water a matter of extreme difficulty and uncertainty; that failure to find it is not necessarily proof of its absence; and that it may disappear from a specifically infected water before occasion arises to subject the water to bacteriological tests.

It has also been shown, however, that certain other bacilli give bacteriological evidence of the existence of sewage pollution, and consequently of the existence of a condition suitable for the propagation of typhoid infection.

This bacteriological evidence of sewage pollution has been obtained in a conclusive manner from the East Buchanan Street sample in the definite discovery of pseudo-typhoid and coliform bacilli in large numbers.

In the case of the Garthland Street and Incle Street samples the results obtained attach to these samples, and most notably to the former, a very strong suspicion of sewage pollution.

Obituary.

DONALD CAMPBELL BLACK, M.D.

By the sudden death of Dr. Campbell Black from cardiac failure on the evening of Tuesday, 20th December, 1898, Glasgow has lost one of its most aggressive medical reformers. He was a well-known controversialist, and an energetic opponent of the modern developments of the germ theory of disease. He was also greatly interested in the rectification of hospital abuse. In spite of his constant warfare against what he conceived to be error, and his trenchant, unsparing criticism—of institutions and doctrines, however, rather than of individuals—Dr. Black was a warm-hearted man, much beloved by his own immediate circle. Although we find it impossible to place ourselves in his point of view, we have no hesitation in believing that his convictions were all honestly held, however erroneous and misleading in some instances they may have been. Dr. Black wielded a ready pen, and was long actively engaged in medical journalism. When Dr. P. A. Simpson acted as editor of this *Journal*, Dr. Black assisted him as sub-editor; and he was also associated with the late Mr. John Reid in the publication of the long defunct *Medical Examiner*—the "mustard plaster," as it was humorously called by those who, perhaps, felt the sting of its uncompromising criticism. Holding the views he did, and expressing them in a style which frequently cut to the quick, it is not surprising that Dr. Black roused much opposition in professional circles, and probably in this way hindered to some extent his worldly success. In this, however, he showed a want of tact and of *savoir faire*, but no lack of honesty, and in this view of his character most of our readers, we have no doubt, will agree.

Dr. Black was a native of Oban, where he was born some 58 years ago. He studied in Glasgow University, and received his degree in 1862. Since then, with the exception of a short period during which he attempted to establish himself in practice in London, he may be said to have resided in Glasgow, where he was well known in medical and Celtic circles. He was for some years Senior Assistant Physician of the Glasgow Royal Infirmary, and for six years Professor of Physiology in

Anderson's College. He was also Surgeon-Captain of the 10th L.R.V. (Glasgow Highlanders). Among the medical works which he issued the following may be mentioned:—"Observations on Therapeutics," "Medical Reform," "Lectures on Bright's Disease and Kindred Subjects," "The Germ Theory," &c. A Gaelic-speaking Celt, he was in warm sympathy with all matters relating to the Highlands. He was a director of the Glasgow Celtic Society, the Argyllshire Society, honorary president of the Oban and Lorne Association, and ex-president of the Glasgow Gaelic Society. Only a few weeks ago his numerous friends in this city presented him with his portrait in oil in recognition of his personal worth, and those who heard him speak on that occasion remarked that they never saw him in better form.

CURRENT TOPICS.

Presentation of Portrait of Dr. John Burns, of Bridgeton, to the Corporation.—On Monday, 19th December, 1898, our veteran townsman, Dr. John Burns, was presented with his portrait, which had been painted by Mr. John P. Downie. The presentation was made by Sir. Wm. T. Gairdner, and Dr. Burns thereafter asked Councillor Shearer to receive the picture on behalf of the Corporation of Glasgow. The ceremony took place in the Trades' Hall, and there were present about six hundred people. In the evening Dr. Burns was entertained to a complimentary dinner in the Windsor Hotel. Dr. Burns is now one of the oldest and most successful practitioners in Glasgow, and well deserves the honour which has been done him.

Appointment.—Dr. C. O. Hawthorne, formerly Senior Assistant to Sir Wm. T. Gairdner in the University of Glasgow, and Lecturer on Materia Medica and Therapeutics in Queen Margaret College, has been appointed Medical Superintendent of the Medical Graduates' College and Polyclinic, London.

Disinfection for Plague.—We have received copies of reports presented to the Surgeon-General with the Government of Bombay, detailing experiments carried out by Surgeon-Major Bannerman, Dr. Ernest L. Marsh, and Dr. Watkins-Pitchford on the power possessed by various agents to destroy the bacillus of plague in contaminated rooms and articles. For the disinfection of articles the "Equifex disinfection stove" and the "Bowman disinfector" were both found to be reliable. Sulphur dioxide and vaporised carbolic acid were found to possess considerable penetrative and disinfectant power; but gaseous bactericides are inferior to fluid ones. Whatever might be the effect of fumes, a more certain and speedy one could be obtained by the use of solution of perchloride of mercury, carbolic acid, &c. A gas might sometimes act on objects that liquid from a pump could not reach; but it was found that, where the circulation of air was limited, the diffusion of gas into interstices, &c., was quite insufficient for disinfecting purposes.

"ZEITSCHRIFT FÜR AUGENHEILKUNDE."—We have to inform our readers that a new journal of ophthalmology, with the above title, and edited by Kuhnt, of Königsberg, and Michel, of Würzburg, will appear this month. The publisher is Karger, of Berlin.

NEW DRUGS, PREPARATIONS, INSTRUMENTS, &C.—*Hommel's Hæmatogen* is a blood-forming tonic, which seems to be worthy the attention of our readers, in the class of cases in which we would prescribe cod liver oil and iron. It is said to contain (1) perfectly pure hæmoglobin, (2) the whole of the salts found in fresh blood, and (3) the albuminous constituents of the serum in a concentrated and purified form. In these days of treatment by animal extracts, this drug may be well worth a trial.

The Sanitas Company have recently placed upon the market a liniment which they call "Sanitas Embrocation," and from examination of a sample of this we feel sure it will give great satisfaction in sprains and rheumatism.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1898-99.

MEETING III.—4TH NOVEMBER, 1898.

The President, DR. G. S. MIDDLETON, *in the Chair.*

I.—A CASE OF CEREBELLAR ABSCESS SUCCESSFULLY TREATED BY OPERATION.

BY DR. J. H. NICOLL.

The patient, who was aged 26, was first seen on 17th May, 1898, and found to be suffering from discharge from the left ear, accompanied by deafness of ten years' duration. For one month, also, there had been pain in the ear, general headache, and distinct facial paralysis. A week later these symptoms became associated with vomiting, shivering, tenderness over the mastoid process, and drowsiness. On the following day the antrum was opened by Dr. Barr, and cleared of pus. It was then packed. In the next two days the patient became more apathetic, nystagmus developed, and the left pupil was variable in size. There was commencing optic neuritis in the left eye, and later on in the right. There was also repeated yawning. On the third day the left pupil became twice as large as the right. The temperature was subnormal, and the pulse 96. Dr. Nicoll then operated, opening up the mastoid orifice and exploring the sinus to the depth of an inch. As no pus was found, and as the bone was very dense, he trephined at first over the auditory meatus, and then just at the edge of the occipital bone. In the latter situation an abscess was found and evacuated.

Progress to recovery, during which a drainage-tube was kept in, was uninterrupted, but very slow; and, therefore, about six weeks afterwards, Dr. Nicoll operated again, working into the cerebellar fossa round the knee of the sinus, having opened from just behind the auditory meatus, thus tapping the abscess and making the two channels communicate. This cavity was douched out for some time. The man is now well, but the mastoid communication with the middle ear is still kept open. There were about twelve cases on record of recovery from cerebellar abscess after operation.

Dr. Walker Downie said that the case illustrated the danger of chronic suppuration of the middle ear. Such cases were often neglected until distinct inflammatory mischief had set in, which might spread to the interior of the cranium. He saw a case of the kind eighteen months ago where the patient did not continue treatment, and developed a short time ago, after a chill, symptoms of earache and tenderness over the mastoid process. The patient was operated upon by Professor Macewen, and a mastoid abscess and a large cerebellar abscess were found. The patient was now going on well.

Dr. J. G. Connal had seen Dr. Nicoll's patient at the Ear Hospital, and sent him into the house. The symptoms were as already detailed. He had noted the variability of the left pupil.

Dr. Nicoll, in reply, mentioned that the cause of death in cerebellar abscess was not the difficulty of reaching the abscess, but was due to the distension of one or other ventricle, with the consequent thrombosis of the veins of Galen.

II.—A CYSTIC GOITRE REMOVED BY OPERATION.

By Dr. Beatson.

The patient was a girl of 21, who had always enjoyed excellent health. In the summer of 1897 she noticed a swelling of the left lobe of the thyroid gland, which gradually increased. She was admitted to the Western Infirmary in the summer of this year, when the question of exophthalmic goitre was discussed. There was, however, no sign of it, except a slight degree of von Graefe's symptom, and Kocher's method of removal was performed on 3rd August. The recovery was good, and the resulting deformity small. Chloroform was used, although Kocher never gave it in thyroid operations. No difficulty was experienced in its administration.

III.—A FATTY TUMOUR REMOVED FROM THE SUPERIOR MEDIASTINUM.

By Dr. Beatson.

The specimen, which was about the size of an orange, was removed from the superior mediastinum of a man of 45. It presented just above the manubrium sterni, where a slowly increasing tumour had been noted to be present for five years.

It had caused no inconvenience. From its consistency the tumour was supposed to be a cyst, but upon operation (on 23rd October) the supposed cyst-wall was found to be the deep cervical fascia. When this was incised, fatty lobules protruded, and the tumour was easily shelled out. Dr. Beatson had never seen a similar case, nor had he found one on record.

Mr. H. E. Clark said that the tumour, which had not yet been examined microscopically, might possibly contain elements connected with the thymus gland.

Dr. Middleton expressed his interest in the former case, and said he supposed there was enough of the thyroid left to prevent the occurrence of myxœdema.

Dr. Beatson replied.

IV.—TWO CASES OF LARGE MENINGO-ENCEPHALOCELE REMOVED BY OPERATION.

A. By Dr. James Adams.

This was a case occuring in a child of 6 days old. When seen there was a large bilobed swelling protruding from the posterior fontanelle, which proved to be a hydro-encephalocele. The sac was on the verge of rupture. It was therefore tapped on the following day, and 6 to 8 oz. of blood-stained fluid were removed. There was still a large mass left, and the sac was therefore opened and the distended and protruding left lobe of the cerebrum was trimmed down. The sac was then closed. The child remained well for three days, when its breathing became affected, and it died in six hours.

B. By Dr. J. H. Nicoll.

This case was similar to the last, the child being, however, only 3 days old. The sac had been wounded in parturition, and there was slight leakage. The tumour was excised, and the child died on the fourth day.

Mr. H. E. Clark said that in such hopeless cases speculative treatment was justified, and much might be tried that would not be justifiable in ordinary cases. Excision was the most likely method of treatment in cases of meningocele, and leakage was the most frequent cause of death in cases of excision, as the sac was so thin that the ligatures often gave way.

Dr. Macgregor Robertson said that the cases reminded him of those of two rabbits operated on by Christiani, from which the cerebral hemispheres had been entirely removed. They behaved thereafter like ordinary rabbits, except that they tended to revolve in circles. They lived for a week or ten days, and then died. The human animal at birth was like the adult lower animals in regard to cerebral function.

Dr. Adams replied that he had been afraid to give chloroform. The sac was fairly thick at the base, and he had not been troubled with leakage. The temperature had not risen even before death.

Dr. Nicoll, in reply, described the steps of his operation.

V.—A NÆVOID TUMOUR OF THE INTESTINE ENCLOSED IN A DOUBLE INTUSSUSCEPTION, INVOLVING OVER FIVE FEET OF BOWEL, SUCCESSFULLY RESECTED.

By Dr. J. H. Nicoll.

The patient, who was a lady of about 20, had been seized not long ago with a sudden attack of acute abdominal pain, accompanied by constipation, obstinate vomiting, and hiccough. The pulse was 90, the temperature 100·6°, and the abdomen became rapidly distended. A fortnight ago a similar attack took place, and since then there had been epigastric pain after meals. There was dulness on the left side of the abdomen. The diagnosis then made was either intussusception or the perforation of a small gastric ulcer. The abdomen was opened three hours later, and some clear, brownish fluid was found in the cavity. An intussusception was also found, and proved to be irreducible, even after puncture and incision of the first and second tubes. When this was done, coils of small intestine protruded from the incision. The whole of the parts involved were then removed *en bloc*, and the extremities of the bowel united. The patient recovered in three weeks. The specimen shown was a nævoid tumour of the bowel, which had produced a small intussusception passing into a much larger one, and carrying with it several coils of small intestine. In all, about 5 feet of bowel had been removed. The operation lasted an hour and a quarter. The length of mesentery that had to be divided added to the time, and a little collapse followed upon the operation. No artificial aids, neither clamps nor buttons, were used in its course. The fingers of an assistant were better than clamps. Murphy's button was very dangerous, as the operation had to trust to union, by setting up gangrene, and that septic gangrene. It had been advocated as the result of stitching experiments on rabbits, in which animals it was almost impossible to stitch without piercing all the coats, and thus causing leakage.

Dr. James Adams agreed that the use of buttons and of clamps should be entirely discarded. It would be interesting to see how the patient would thrive in the future, after the removal of so much bowel.

Mr. H. E. Clark had at first been charmed with Murphy's button, as, compared with the suture, it saved time. Apart from that, he thought that the fewer mechanical appliances employed the better for the patient. He had since found the button causing ulceration and septic peritonitis, and was inclined to agree with Dr. Nicoll in condemning it.

Dr. Adams mentioned that Dr. Alexis Thomson had had a successful pylorectomy, in which he employed Murphy's button, but the button was not passed for thirteen months after the operation.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1898-99.

MEETING II.—14TH NOVEMBER, 1898.

DR. MEIGHAN *in the Chair.*

I.—GANGRENOUS UTERINE FIBROID TUMOUR FROM TORSION OF ITS PEDICLE.

BY DR. DALZIEL.

Dr. Dalziel showed a specimen of fibroid tumour of the uterus, gangrenous from torsion of its pedicle, removed from a patient who suffered also from an ovarian tumour and numerous other fibroid tumours of the uterus.

The patient, aged about 37, was sent to the Western Infirmary by Dr. Prangnell, of Falkirk, who first saw her, suffering from an acute attack of peritonitis and a large tumour occupying the greater part of the middle of the abdomen, extending upwards to within 2 inches of the xiphoid cartilage.

On admission, elevation of temperature, tenderness, distension, and rigidity of abdominal muscles amply confirmed the diagnosis of peritonitis, and under chloroform Dr. George

Turner and Dr. Dalziel concluded that the tumour was a large pedunculated fibroid, and that there were other fibroids, especially one the size of a cricket ball, which could be felt springing from the back of the uterus.

As the patient was steadily getting weaker, laparotomy was performed, and the large fibroid, about 10 inches in diameter, was found to be necrotic and intimately adherent to all adjoining structures in the abdomen. The adhesions were divided, when it was seen that the segment of the uterus from which the pedicle of the tumour sprung was also avascular and necrotic from the extreme torsion of the pedicle. On this account, and also from the presence of the numerous other fibroid tumours as well as the ovarian tumour on the left side, it was deemed advisable to remove the uterus and the broad ligaments.

The patient made a good recovery, and returned home in five weeks.

Dr. Dalziel remarked on the infrequency with which torsion of a fibroid pedicle occurred, and the similarity of the symptoms to those of torsion of an ovarian pedicle. The result was satisfactory in view of the extremely exhausted and emaciated condition of the patient at the time of operation.

Dr. Rutherfurd spoke in regard to the nature of the peritonitis which followed the torsion of the pedicle. In this case there were all the symptoms of a general peritonitis, sudden and acute onset of pain, tenderness and distension of the abdomen—and yet in its result far different from that of the purulent type which followed a perforation. The clinical conception of peritonitis was one thing, the pathological another. The prognosis depended upon the type and the nature of the cause.

In reference to the use of the term ranula, Dr. Rutherfurd would apply the term to any cystic tumour projecting into the floor of the mouth, independent of its connection with a salivary gland. Its application was at present vague, and some would confine it to a cystic tumour connected with the salivary gland ducts.

Dr. Dalziel, in reply, said that there were degrees of peritonitis, just as there were degrees of inflammation. A peritonitis where there was a simple congestion was widely different from the septic change due to microtic development. In the case just described the peritonitis was due to the presence of a foreign body, and was an attempt at repair. It was certainly difficult clinically to distinguish the one form from the other apart from the cause. He had yet to learn what the term ranula meant; he had seen it applied both in its limited and extended sense.

II.—FOUR CYSTS FROM THE NECK.

By Dr. Dalziel.

Dr. Dalziel showed four specimens of cysts removed from the neck—two from the submaxillary gland, of which one proved to be a dermoid cyst containing strands of yellow hair and epithelium, and was intimately connected with the secreting gland structure, which was spread over the inner and upper aspect of the cyst. Removal was somewhat difficult owing to firm adhesions. The other submaxillary cyst was a retention cyst; it had been removed from a man, æt. 22, owing to the deformity produced on the side of the neck. The sac could be easily emptied through the duct by pressure. Attempts had been made to cure the condition by incision from the mouth, but without avail. Consequently the submaxillary gland had been removed. The specimen shown consisted of this gland with the duct expanded into a smooth-lined multilocular space surrounded by thin and atrophied gland structure. No cause for the dilation of the duct was discoverable, nor any history obtained suggestive of calculus or anything which might have caused obstruction of the duct. The cyst had been gradually forming for a few years before operation.

The other two cysts were removed—one from the thyroid gland, equal in size to a small walnut; it shelled out as usual without much difficulty through a small skin incision. The other cyst, from the parotid gland, had been removed from a lady, æt. 38. It had originated in the lower part of the parotid, and extended backwards under the sterno-mastoid. It contained turbid yellow fluid, with flakes of epithelial *débris* and crystals of cholesterine, suggesting its dermoid nature. The cyst equalled in size a tangerine orange.

Dr. Dalziel discussed the origin of these cysts—the dermoids in connection with the branchial clefts, and the absence of cause for the retention cyst in the submaxillary gland.

III.—CONGLOMERATE TUBERCLE OF THE CHOROID.

By Dr. Meighan.

I am induced to bring this case before the Society in respect that I believe it to be a case of solitary, or conglomerate, tubercle of the choroid, and on account of the infrequency of such examples of the affection. In the choroid, as in the iris and ciliary body, tuberculosis is met with either as miliary tubercle in general acute tuberculosis, or as large masses of infiltration forming solitary nodules in chronic tuberculosis. It has essentially a diagnostic interest, as in doubtful cases their presence in the choroid may assist in establishing a diagnosis.

By the ophthalmoscope they are seen in the fundus as greyish-red spots, sometimes whitish, shading off at their margins into the normal colour of the choroid, usually no pigmentary changes surrounding them; thus they are distinguished from exudates, as seen in disseminated choroiditis, where pigmentary changes are seen in the form of rings.

Miliary tubercles occur in the deeper layer of the choroid as minute points, growing in the interspaces and probably from the walls of the vessels. They develop in size towards the retina, and then become ophthalmoscopically visible.

They are usually seen in the neighbourhood of the disc, frequently in the macula; their size varies from 1 to 2 mm., and there may be from one to twenty spots, but usually averaging three or four. Within a few days they become larger, and the spots become more numerous. It is important to remember that they do not give rise to any defect of sight, and therefore repeated ophthalmoscopic examination is necessary to ascertain their presence.

According to most observers, cases of tubercle of the choroid are seldom seen, and it appears, especially from the researches of Cohnheim, that they may appear only a few days or hours before death, but he frequently found them in the choroid after death.

The solitary or conglomerate tubercle, as in the specimen I now show you, is met with in subjects of chronic tubercle. Many observers believe that this form is probably always secondary to some other tubercular lesion, but they admit that it is often difficult to prove the existence of an antecedent tubercular lesion, and the diagnosis of such a growth is arrived at partly by an examination of the eye and partly by a process of exclusion of other diseases. From the number of cases recorded it appears that usually one eye only is affected by the disease. A destructive form of inflammation of the eyeball soon makes its appearance, the growth meanwhile becoming enlarged. Perforation and destruction of the eyeball usually takes place; or there may be no signs of external inflammation, but the eyeball becomes somewhat enlarged and the tension glaucomatous, as in the present case; in this condition it may remain for some time, and be a source of constitutional disturbance. From the examination of such tumours it appears that the sclerotic becomes invaded by the disease, causing softening of the tissue. Staphyloma becomes developed without increase of tension, whereas in sarcoma and glioma the sclerotic is very resistant, and only yields from increased pressure, and not from invasion of the disease.

Examination of the tumour shows the usual microscopic characters of tubercle—giant cells with peripheral circle of nuclei, small cell infiltration, caseation; tubercle bacilli difficult to find. Lawford found them in only two out of six cases, although in the same cases they were easily found in the meninges of the brain. Many other observers have had a similar experience. Tubercles in the choroid have no definite relation to tubercular meningitis, and it may be said that they occur in this affection less often than in general tuberculosis.

As will be seen in the microscopic sections shown, the tumour exhibits the characteristic appearance of a tubercular growth, but no bacilli have been found. The recorded cases in which the bacillus has been found in the choroid of patients with other evidences of tubercle are not very numerous. A number of cases have been reported in which, as in my case, though there was every other reason for considering the growths tubercular, the bacillus could not be detected.

The following is a history of the case:—

F. G., aged 6 years, was brought to the Eye Infirmary by his mother, who stated that her boy's right eye was painful, and lately she had discovered that it was blind.

Family history.—Both parents living. Father enjoys good health. Mother states that she is in good health, with the exception that she suffers from a patch of lupus on the left cheek. She has had four children—three living, one died from convulsions, aged 16 months, said to be due to teething. An inspection of the mother and her other children does not afford any other evidence of either a syphilitic or a tubercular taint.

Personal history.—The patient had enjoyed good health till 4½ years of age, when he took measles, which tried him very much, and from which he has never completely recovered. In October, 1897, he was admitted as a patient in the Sick Children's Hospital on account of an abdominal complaint.

Dr. Coats, the house surgeon in the Children's Hospital, has kindly furnished me with a short report of the case. He was a patient in the Hospital from 18th October to 30th October, 1897. It is stated that he had measles in May, and since then has been in poor health. No complaint, but simply "languid and hanging." He had been losing weight, and had considerable diarrhœa till about three weeks before admission, since when bowels had been constipated. There was some history of abdominal swelling. The skin about the mouth has been broken out for about a fortnight. The right ear has been inflamed for about a week.

On admission the temperature was 100·2°, falling later to 99·2°; pulse, 130 to 108; respirations, 48 to 28. The boy is thin, pale, and unhealthy looking, and there is a sore on the front of the left leg. It was noted that the right eye was inflamed. Heart, lungs, and abdomen, nothing abnormal made out. Urine normal.

On 30th October the boy was dismissed, and it was noted that he was much brighter, eating and sleeping well, and that he had gained 1½ lb. in weight.

Examination of eyes.—The boy holds his head to the right side, and is afraid of light. There is slight strabismus convergens of the right eye, and the eyeball is enlarged. There is hyperæmia of lids and conjunctiva; cornea slightly hazy; anterior chamber shallow; iris darker coloured than its fellow; pupil contracted, fixed, and blocked with lymphy material; tension of ball increased, and an unusual elastic feeling noted; no perception of light with this eye. His left eye was to all appearance normal, save a slight sympathetic irritation.

General examination.—He looks pale and somewhat puffy about the face and neck; the cervical and submaxillary glands on the right side are swollen; and there is an inflamed scar below the jaw from a recent abscess. There is no distinct evidence of any disease of his lungs, and only a slight puffiness about his abdomen can be observed. His temperature shows a slight increase towards the evenings, and his urine is normal.

The right eye was enucleated on the 2nd November, 1898, and he was dismissed from the Eye Infirmary eight days thereafter.

On the 12th his mother states he is much better, the irritation has passed from the left eye, and he is now lively and takes his food well.

The pathological report on the above case was submitted by Dr. Leslie Buchanan, and is as follows:—

External appearances.—The eyeball is considerably distorted, measuring 19 mm. in antero-posterior diameter, 20 mm. in the horizontal, and 23 mm. in the vertical equatorial diameter. This distortion is mainly accounted for by retraction of the sclerotic at and near the corneo-scleral junction in the lower half. The cornea is clear all over, except at one spot to the lower and outer side nearly opposite the pupillary margin.

Internal appearances.—When divided by vertical meridional section, it is found that the ball is almost entirely filled by a pinkish coloured mass, which has driven the lens and iris forwards so largely that the anterior chamber is entirely abolished by pressure of the iris against the cornea.

The iris itself is thinned, and shows no sign of local thickening. The pupil is completely occluded and excluded. The lens is driven forwards, but is large and round. The ciliary body is larger than is normal for a child of such an age. Its pigment layer is intact, but is turned inwards, and ceases to be visible quite abruptly just in front of the ora serrata (judging by the muscle of the ciliary body).

The choroid cannot be traced as such at any point, as the mass in the scleral cavity has evidently infiltrated and so altered it as to render it unrecognisable. No trace of retina can be found at any point. The growth which fills the scleral cavity is of firm consistence and retracts in the centre, being probably fibrous to a great extent.

Two or three cavities, which contain matter of an almost white colour and very soft consistence, exist in the mass, which is itself of pinkish colour. The largest of these cavities is smooth in outline, and is separated from the sclerotic by a band of what appears to be thickened choroid.

The optic nerve is not appreciably thickened.

Microscopic appearances.—The cornea, iris, and ciliary body show evidences of pressure and inflammatory change of slow type only, the last being increased in bulk by formation of fibrous tissue only. No trace of unaltered choroid or retina can be found.

The mass filling the eye is found to consist largely of fibrous tissue in various stages of formation, but also contains numerous accumulations of round cells which take various shapes, and most of which contain one or more giant cells (whose nuclei are distributed round the periphery) and a considerable quantity of fine fibrous tissue; they are further poorly supplied with blood-vessels. There are also considerable areas of caseous degeneration in various parts, and the tight contents of the cyst formations is found to consist also of such material, with a few cells still recognisable.

In the sclera there are found several masses of round cells similar to those in the interior of the eye.

The optic nerve is also found to contain a few similar structures, as also does the arachnoid sheath. This is the case only in the anterior part of the nerve and sheath, both being quite free farther back, hence it is probable that the growth has occurred in the eye by metastasis, and is spreading backwards.

Special staining fails to reveal the presence of tubercle bacilli.

Dr. Edington said he was interested in the case just described, as he recently had a very similar experience. A child, who had not long recovered from measles, was brought to him on account of a tubercular synovitis of the left knee-joint, and a tubercular condition of the palm of the hand. For the latter condition he was operated upon. Within a week of the operation the cornea became steamy, and being suspicious of its nature, he sent the child to Dr. Ramsay. A tubercular choroiditis was diagnosed, and the eye enucleated. Dr. Leslie Buchanan found evidence of tubercular change in the choroid.

Dr. Rutherfurd considered that the occurrence of tubercle in the eye must be rare as compared with the occurrence of tubercle elsewhere. If it were common, one's attention would be more frequently drawn to it. Speaking generally as to the dissemination of tubercle after operation, he did not think that cases of dissemination were more frequent after operation than apart from operation. He recalled the case of a child, somewhat similar to that described by Dr. Edington, where a tubercular iritis followed the treatment of a tubercular epiphysitis. The eye was not enucleated. Death occurred from tubercular meningitis. Dr. Rutherfurd also drew attention to the fact that comparing the meshwork around the capillaries of the retina, possibly the finest in the body, with that around the capillaries of the lung, perhaps the coarsest in the body, how comparatively seldom one found tubercle in the retina as compared with the lung.

Dr. Adams said that there was at present in his ward a girl whose ankle-joint he had excised two years ago. She was admitted on the present occasion on account of a stiffness in the right shoulder-joint, for which passive motion was tried. This seemed to light up mischief in the opposite shoulder-joint, which soon subsided, to be followed, however, by a white swelling of the knee-joint. He also thought that if tubercular eye conditions were frequent they would see more of them in general surgical work.

IV.—DETACHMENT OF RETINA IN BOTH EYES IN CHRONIC NEPHRITIS.

By Dr. James Carslaw.

Dr. Carslaw showed specimens illustrating detachment of the retina from a case of chronic nephritis. The patient was a labourer, aged 35, and was admitted to the Western Infirmary on the 3rd of October, 1898, suffering from general anasarca and breathlessness, with almost total loss of sight. His illness had apparently begun in July, 1898, with profuse epistaxis, but after this he was able to resume work. In September, pain in the back, headache, vomiting, œdema of face and legs, and diminution in quantity of urine were symptoms present; and dyspnœa became very troublesome. A fortnight before admission, though his eyesight had been failing before this, he suddenly began to lose the sight of the right eye. Three or four days later the left eye became similarly affected, the patient rapidly becoming so blind that he was able to distinguish little more than between light and darkness. Ophthalmoscopic examination of the eyes showed extensive detachment of both retinæ, lobulated, and principally involving the lower half. In addition, the patient was discovered to be the subject of the ordinary neuro-retinitis of chronic nephritis. So far as the optic discs and retinæ could be illuminated, there were seen both papillitis and numerous flame-like hæmorrhages, and also some pale spots. The vessels of the detached portion of retina could also be made out on the introduction of strong convex lenses, and even a slight hæmorrhage could be seen there. It was not very clear whether the patient had been myopic or not.

On admission to the infirmary the patient was in a condition bordering on uræmia, and he did not improve. Dyspnœa was distressing, and he had some œdema of the bases of his lungs. The pulse tension was high, he had severe headache, and restlessness was a marked symptom. After being three days in the infirmary he developed pericarditis, and died next day. The principal points made out at *post-mortem* examination were:—Chronic interstitial inflammation of both kidneys, recent pericarditis, and great hypertrophy of left ventricle. The left eye was enucleated for observation, and hardened in formol-Müller.

On section of the hardened eye the detachment of the retina was at once evident, and sections examined showed that the detachment was caused by serous exudation, an exudation without any corpuscular elements.

Dr. Carslaw pointed out that detachment of the retina was a very rare complication of chronic nephritis, though he had found a few cases like this one reported. No doubt its occurrence depended on the high tension of the circulation, the hypertrophied left ventricle, and the diseased condition of the retina itself, and hence it was symmetrical. If the patient had been highly myopic he would have been specially liable to such an accident. As was usual in cases of detachment, the exudation was serous and not hæmorrhagic.

Dr. Meighan said that he was specially interested in this class of case, and had on two occasions shown the Society similar cases. He thought the eye, judging from the section shown, to be large and suggestive of myopia. Though no blood corpuscles were found in the exudation separating the retina, he regarded the separation as belonging to the hæmorrhagic type. In some cases there was some alteration in structure of the retina itself, sufficient to permit of perforation and escape of the fluid—a result which considerably improved the sight. Being asked if he regarded separation of the retina as common in diabetes, he replied that he could not recall a single case.

V.—A CASE OF DERMOID CYST OF THE PENIS, OF TUBULAR FORM.

By Dr. Edington.

Dr. Edington's paper will be found as an original article at p. 1.

THE FORFARSHIRE MEDICAL ASSOCIATION.

This Society met in the University College, Dundee, on Friday, 2nd December, at 4 P.M.—Dr. J. Mackie Whyte, Vice-President, in the chair.

Dr. Whyte showed a boy, aged 12, who was admitted in June, 1896, to the Dundee Infirmary for ascites. He had been a delicate child, and had suffered from a chronic otorrhœa; otherwise, nothing marked till onset of this illness six weeks previous. There was evidence of lardaceous disease in liver, spleen, kidneys, and intestines. In the liver, too, there seemed to be deep fibrous constrictions. The abdomen was tapped repeatedly till October, 1897; the amount of fluid drawn off latterly was 324 oz. in nine days. The urine up till that time was very scanty; but after the tapping in October it suddenly increased in quantity, and the fluid ceased to gather in the peritoneum. The cause of the disease was apparently the otorrhœa, syphilis being excluded with a fair degree of certainty. The reason for the cure was quite doubtful.

Dr. Whyte showed a brain from a case of purpura with hæmorrhage into the base, which seemed to have begun in the optic thalamus. The patient had numerous hæmorrhages all over the body. There were no symptoms localising the cerebral hæmorrhage from which she died.

Mr. Greig showed part of a catheter removed from the bladder, by suprapubic cystotomy, of a man aged 63, suffering from an enlarged prostate.

Professor Kynoch showed a specimen of gonorrhœal salpingitis and abscess of the ovary removed by cœliotomy.

Professor Kynoch read a paper on "The Recent Improvements in the Treatment of Vesical Fistulæ." In this paper he described the various operations suggested and performed during the last fifty years for the treatment of small, medium, and large fistulæ where there was destruction of tissue. He gave notes of a case of his own in which he had obtained a successful result by paring and suturing the edges of the fistula. Lastly, he dealt with vesico-uterine fistulæ, in the treatment of which he thought that, when closure of the os uteri was the only available treatment, the ovaries might be removed at a subsequent operation.

Professor MacEwan, Mr. Greig, Dr. Buist, and the *Chairman* all spoke on the paper.

Professor Kynoch briefly replied on the discussion.

Dr. Macgillivray gave a short paper on "The Treatment of Iritis," in which he emphasised the importance of the early and energetic use of atropine combined with cocaine in the form of an ointment. This ointment he recommended should be applied every hour or oftener till all syncohiæ were broken down. He also advocated the internal administration of mercury, hot fomentations, and leeches to the temple to allay severe pain.

Dr. Duncan spoke on the internal treatment, which he did not think was sufficiently emphasised in the paper.

The *Chairman* also spoke.

Dr. Macgillivray, in reply, said the paper did not aim at, though approving of, etiological treatment.

REVIEWS.

The Living Organism: an Introduction to the Problems of Biology. By **Alfred Earl**, M.A. London: Macmillan & Co., Limited. 1898.

The student of biology, as well as the general reader, will be pleased at the appearance of a work on the investigation and nature of living beings, or things as some choose to call them, of the scope and intention of the present volume. The recent great and still progressive increase of knowledge of the phenomena and laws of life, as detailed in works on anatomy and physiology, zoology and botany, and other abstract and concrete phases of the science, makes a systematic introductory statement of the problems dealt with in its various departments a pressing necessity. The task is ambitious and hazardous, and although the author has "ventured on this essay to deal with some of the difficulties of the subject, and to sketch in outline a course of thought which may serve as an introduction to more special study," he premises that his object in writing will be satisfied "in directing attention to the important truth that, though chemical and physical changes enter largely into the composition of vital activity, there is much in the living organism that is outside the range of these operations." In trying to substantiate this biological doctrine he departs considerably from the promise of the title. "After the methods," he says, "borrowed from the analysis of inanimate nature are exhausted there remains a residuum of fact which is practically untouched by them." He maintains an absolute differentiation between animate and inanimate nature. Those who regard the "unity of all things" as a necessary postulate, and see in the advance of science a widening basis of external evidence in corroboration with this postulate, will not readily accept a doctrine so contradictory to it. The essay has an incidental value, being written by one accustomed to reasoning in other departments of thought, and shows that the mind of the savant may, nevertheless, in many respects have the inertia of the mind of the layman. In his conception as to the proper attitude of the mind to biological study he is, however, more fortunate in his opinions. A very grave drawback in our method of education in the objective sciences is the neglect of a criticism of the mental instrument and mental operations by which the knowledge is acquired, which first of all should be understood. The reasoning faculty is active in acquiring knowledge in the objective sciences as well as the subjective sciences, yet it is customary to study the former without a single hour's instruction in logic. Mr. Earl has also, out of proportion to the plan of his essay, discoursed upon the importance of being clear upon the nature of external perception, and unduly insisted on the correctness of his own views in this problem. But his remark is *apropos* "that the dissection of typical organisms is not necessarily an intellectual exercise." Biology may be regarded as the highest of the objective sciences, and, in an ascending scale, involves problems in physics, chemistry, and electricity in vital phenomena as observed in plants and animals (which is the subject-matter of the essay), and in mental or supra-organic phenomena, such as volition and intelligence, and those processes which are manifested in the highest modes of human existence, and which are vaguely, yet undoubtedly, foreshadowed in the higher animals. Amongst the purely biological problems, Mr. Earl omits to refer to the problem of the origin of life. His conception of the unit which forms the unit of biological reasoning is expressed as follows:—"The singleness and completeness of the individual is the end no less than the beginning of biological inquiry." The cell or corpuscle is almost unanimously, and by the authorities at the present time of greatest repute, held to be the unit which forms the basis of all biological reasoning. And we cannot agree with the author in the opinion that the problems of variation, heredity, adaptation, and selection are really problematical, and do not deserve discussion in a work of the scope of the present essay. And among many other matters left untouched we should like to have had his opinion, as bearing on medical science and art, whether man can modify and control vital processes, and if so, to what extent they come under his command.

General Nursing. By EVA C. E. LÜCKES. London: Kegan Paul, Trench, Trübner & Co., Limited. 1898.

THIS is an admirable manual—one of the best, if not the best, of the series of books on nursing that have appeared in recent years. It is so complete, so clear, so well written, that it is difficult to select one part as more deserving of praise than another. In addition to directions for general nursing, there are instructions as to how to manage fever cases, ophthalmic cases, and sick children. The earlier portions of the work are full of excellent advice to nurses on the subject of their profession, and we should be delighted to think that the principles here laid down could be instilled into the hearts of all British nurses. The writer of this notice has perhaps had an exceptional experience, but it has been his misfortune more than once to have had supplied to his cases from nursing institutions in this city most objectionable persons, who possessed little or nothing of the true nursing spirit. If all nurses could keep before them as their ideal the counsel of perfection which is inculcated in this work, the whole profession would approach in nobility of standard to the position already attained by a large number of its members.

We notice one little slip, the use of the expression "nitrate" instead of "nitrite" of amyl. The book is furnished with an index; but it would perhaps add to the convenience with which nurses could consult it in reference to particular points, if the contents of the different chapters were indicated immediately after the preface.

Guide to the Clinical Examination and Treatment of Sick Children. By JOHN THOMSON, M.D. With 52 Illustrations. Edinburgh: William F. Clay. 1898.

THIS is one of the most useful books on the diseases of children that has of recent years been issued from the British press. The value of the work lies in its thoroughly practical character, and in the successful manner in which the author has confined himself strictly to the special features of disease in children. It is not a mere text-book on medicine with special notes on children, but it is a book on children's disease and nothing else from beginning to end. It will be of great service to the student, and of even greater to the young practitioner. No one can read the book without at once feeling that the author is thoroughly up in his subject, and that his statements can be absolutely relied upon. The chapter on physiognomical diagnosis might be referred to in proof of this, and we are sure that the photographs with which this section is so excellently illustrated will be of the greatest service to practitioners, who cannot fail to observe the fidelity to nature which they all display. The chapters on infant feeding, therapeutics, and food disorders are also of great value, deserving of close study.

Aids to Examinations. Part II. By T. R. Atkinson. M.D., Dunelm. London: Baillière, Tindall & Cox. 1898.

In the preface to this book the author wisely states that in no way can it take the place of the ordinary text-books. The work consists of an unassorted collection of questions and answers on anatomy, surgery, medicine, gynæcology, midwifery, and hygiene. The replies to the anatomical questions are in several instances incomplete and inaccurate; for example, the boundaries of the liver are described as a superior surface, an inferior surface, and a posterior border; the right suprarenal is given as an inferior relation of the liver, instead of being in relation with the posterior surface; the gall-bladder is not mentioned at all. In other subjects, also, the information conveyed is scrappy and incomplete. We know of no purpose for which we could recommend this work to either student or practitioner.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

NERVOUS DISEASES AND INSANITY.

By Dr. R. S. STEWART.

Suicide in Great Britain. By Sibbald (*Archives de Névrologie*, October, 1898).—The following table gives the number of suicides for the thirty years 1865-1894:—

Periods.	Annual Rate per Million of Population.	
	England and Wales.	Scotland.
1865-69,	67	40
1870-74,	67	34
1875-79,	72	45
1880-84,	75	50
1885-89,	79	59
1890-94,	86	54
1865-94,	74	48

Between the first and last period there has been an increase from 67 to 86 in England, and from 40 to 54 in Scotland. Dr. Sibbald is inclined to doubt, however, this apparent increase of suicide, and is of opinion that in former times there was more reluctance to return cases of suicide as such than there is now. He points out that suicide by hanging shows no increase, the rate per million in England in the first half of the period of thirty years being 25 and in the second half 24 in England, while that in Scotland is identical, viz., 16. The same condition of affairs is found to prevail in those parts of the country where the suicide-rate is high, as in Kincardine and Forfar, as well as in those where the rate is low, as in the south-west. There is a considerable apparent increase of suicides by firearms, cutting and stabbing, poison, and drowning, but it is pointed out that this is counterbalanced by a diminution of corresponding deaths returned as accidental. In Dr. Sibbald's opinion, the apparent increase of suicide is to be attributed to the registration in later years of cases which were formerly returned as accidental, under the proper heading of suicide.

Change of Type of Insanity. By Urquhart (*Journal of Mental Science*, October, 1898).—Dr. Urquhart, in his presidential address at the annual meeting of the Medico-Psychological Association at Edinburgh, made some interesting remarks on this point, based on the records of Murray's Asylum. He pointed out that in the earlier years of the institution the acute cases numbered 65 per cent of the admissions, while in later years these have fallen to 46 per cent; while the cases over 60 years of age have risen from 4 per cent to 14 per cent. The great majority of the earlier admissions suffered from mania, few from melancholia or delusional insanity, and surprisingly few from dementia. The curve for melancholia rises with trivial remissions year by year. The earlier cases were, too, more recoverable, and, as regards physical strength, more favourable, the net recovery-rate in these periods being 35·3 per cent as compared with 32·9 per cent; while the death-rates for these two periods were 5·05 per cent, and 5·65 per cent of the average number resident. More cases of alcoholism were admitted in the earlier period, and the proportion of general paralysis as a cause of death has increased from 8 per cent to 10 per cent of the total deaths.

The Nerve Cells of the Cerebral Cortex. By Lord (*Journal of Mental Science*, October, 1898).—According to this observer, one of the earliest changes in fatty degeneration is an enlargement of the nucleus. The ovoid bodies in the cell protoplasm break down into smaller and smaller ones, and the finer granules shade gradually into fat. This process is shown by the methylene-blue stain, the tint shading off from the dark blue of the least affected through dark green and light green to yellow. By means of combined staining with methylene-blue and osmic acid, this yellow material, the writer believes, is shown to be fatty in nature, the green staining ending where the black begins.

He also thinks it is clearly demonstrated that the cell fibrillæ neither end in nor have any communication with the nucleus, which he therefore regards as having no other function than a trophic one; and he propounds the further theory that the large pyramidal cortical cells are not the source of nervous energy but merely trophic centres, and that the seat of nerve impulse will be found in the outermost layer of the cerebral cortex.

Specific Gravity of the Insane Brain. By Simpson (*Journal of Mental Science*, October, 1898).—From the examination of thirty brains it is found that the cortex of the insane generally is of higher specific gravity than that of the sane at the same age, that of the white matter being identical. Taking the sexes separately, the cortical specific gravity is higher in the male insane and lower in the female insane than in the community generally. The cortical specific gravity is highest of all in general paralysis, and in simple dementia the specific gravity of both grey and white is considerably higher than in the sane. In imbecility, while the cortex shows a much higher specific gravity, that of the white is slightly lower.

The Cortical Nerve Cells. By Robertson and Orr (*Journal of Mental Science*, October, 1898).—In the investigation of 6 cases of acute insanity, all of whom died from exhaustion, these observers found such a large proportion of chromatolysis, disappearance of chromatic substance with concomitant alteration of the cell fibrillæ and of the nucleus, as completely separates these cases from those of the mentally sound in whom, under certain circumstances, somewhat similar appearances present themselves. In acute mania the number of cells affected was estimated at about 65 per cent in one case and 80 per cent in another, while in another every cell appeared to be affected. In melancholia the percentage was much lower, about 25 per cent. The difference between these and general hospital cases was not merely one of percentage of cells affected; it was, in general, a far more advanced chromatolysis that was found, and in some of the cases at least, there was an appreciable loss of nerve cells. The essential anatomical fact of secondary dementia lies, they think, not in mere loss of processes, or other peculiar morbid appearances, but in the complete disappearance of a large number of the nerve-cells of the cortex. The form of the chromatolysis corresponds closely with that found to occur in lower animals from the action of various toxic agents.

The Choroid Plexuses of the Lateral Ventricles of the Brain. By Findlay (*Journal of Mental Science*, October, 1898).—Hyaline concentric bodies occur normally in the choroid plexus, but in insanity they are found in much greater proportion. These are usually round, but may assume various shapes, are surrounded by a hyaline capsule, are marked with concentric rings, and are regarded as resulting from proliferation and hyaline degeneration of the endothelial cells of the connective tissue trabeculæ, and in some instances from the conversion of degenerated arteries into hyaline rods. The cysts so commonly found are attributed not merely to the breaking down of endothelial cells of the trabeculæ, but to that and a resulting condition of œdema. The most important pathological alteration met with in this structure is a hyaline fibroid change in the vessels, affecting mainly the arteries and capillaries, and involving commonly all three coats of the vessel. This hyaline degeneration consists of a homogeneous thickening of the longitudinally running fibrous tissue, and is accompanied with a loss of nuclear staining of the muscular fibres. The adventitia is usually much more swollen and thickened than the intima. The elastic lamina does not undergo the hyaline change, but becomes much thickened. Little fusiform dilatations and sacculations, of the smaller arteries especially, are frequent, and are attributed to the hyaline degeneration of the vessel coats.

Progressive General Paralysis. By Klippel (*Archives Générales de Médecine*, June, 1898).—From the histological point of view, three varieties of this affection are recognised:—(1) Primary inflammatory general paralysis is a diffuse encephalitis, of a distinctly inflammatory nature in its origin, and parenchymatous rather than interstitial. The symptoms of this type consist in a weakening of all the functions of the brain, motor, sensory, and psychic, and the pathogenic causes appear to be infection, auto-infection, auto-intoxication, acting quickly or slowly on already altered nervous elements. (2) The general paralyses associated with other lesions are of an inflammatory nature like the preceding, but there are anterior lesions which modify and complicate the symptoms of the disease. They occur in alcoholics and in the atheromatous, and sometimes in idiots. (3) The degenerative general paralyses are diffuse encephalites due to arterio-sclerosis, tuberculosis, intoxications, &c.

Treatment of Epilepsy. By De Fleury (*Le Progrès Médical*, 17th September, 1898).—This writer attaches importance to the role played by gastro-intestinal auto-intoxications in this disease, and insists on the utility of regulation of the diet, on washings of the stomach, and intestinal irrigation. Sympathectomy he regards as of little efficacy. The most interesting fact noted by him was the considerable increase of the sedative effects of bromide of potassium produced by injections of artificial serum. With two or three injections per day the daily dose of bromide could be reduced to 2 or 3 grammes without increase of seizures, while the intelligence became more lively and the general condition improved. This beneficial action of the serum is attributed o the induced relief of arterial tension and reinforcement of cardiac tonicity.

MEDICINE.

By WALTER K. HUNTER, M.D., B.Sc.

Sputum in Asthma (Dr. R. J. M. Buchanan in *Liverpool Med.-Chir. Jour.*, July, 1898).—The sputum in asthma differs from that in other diseases as regards its cellular elements, and in containing Curschmann's spirals. In asthma there is almost complete absence of the ordinary pus cell or finely granular leucocyte, these being replaced by coarsely granular eosinophile cells, which occur in great numbers, in association with much shed epithelium. The spirals vary in size from 1 inch in length to microscopic lengths, and their spirals present many different forms of twist. They are composed of a gelatinous material like a moistened jujube, and are very difficult to stain and mount. This gelatinous substance, which stains with methylene-blue and is therefore basophile, contains, embedded in it, cellular elements closely packed together round the axis of the spiral. These cellular bodies are coarsely granular, and as their granules are oxyphile, they are thought to be eosinophile corpuscles forming part of the spiral.

The spirals are without doubt produced in the finest bronchioles, and their spiral shape is probably due to spasmodic contractions of the bronchioles trying to displace a foreign body; it is probably only a spiral movement that would displace such a tenacious material. The spasm of asthma, then, is not a primary factor in the disease, but a direct effort of nature to rid the lung of a peculiar exudation, thrown out during a temporary, though acute, bronchiolitis. The special character of this bronchiolitis is evidenced by the large number of coarsely granular eosinophile cells, and by the large quantity of epithelium. It is only during the spasmodic attacks of asthma that the sputum contains these eosinophile cells, for at other times it has all the characters of the muco-purulent sputum of chronic bronchitis.

A Case of Acute Leukæmia (Dr. Bontor, *West London Med. Jour.*, July, 1898).—The patient was a youth of 18 years, and the whole duration of his illness was not more than six weeks. It began suddenly with a feeling of giddiness, fainting, sickness, and vomiting. It was thought to be a bilious attack, and treated accordingly, but without success. A fortnight after this the patient came under Dr. Bontor's care, who then noted the face to be extremely pale and puffy-looking. The margins of the eyelids were red, and the conjunctivæ swollen up in folds. The cervical glands were also enlarged. The patient complained of extreme weakness and shortness of breath. The urine was quite normal, as were the heart and lungs. There was some slight improvement in the symptoms during the next ten days, but after that the patient went steadily down hill, seeming to die of inanition. The weakness increased, the gums of both upper and lower jaws swelled up till they stood up beyond the teeth. There was likewise swelling of the bronchial mucous membrane, enlargement of the spleen and of the glands in the neck. Palpitation and breathlessness were urgent symptoms. The temperature rose during last few days of life as high as 102·4°. The examination of the blood is stated as follows:—

Small lymphocytes,	0·88 per cent.
Large ,,	98·49 per cent.
Polymorphonuclear,	None.
Coarse oxyphile,	0·23 per cent.
Myelocytes,	0·4 per cent.

The amount of hæmoglobin, the number of red corpuscles, or the proportion of white to red corpuscles is not stated.

A Family of Bleeders (Dr. Sadler, *Birmingham Med. Rev.*, July, 1898).—The father and mother were perfectly free from the hæmorrhagic diathesis, as were also their parents, their brothers, and their sisters. The ailment seems to have arisen *de novo* in the present generation. The record is as follows:—The family consisted of 16 children, 3 of whom died in the first few days of life of infantile complaints. Of the remaining 13, the *first*, a boy, when at the age of 3, fell and bit off the end of his tongue. The bleeding could not be stopped, and death supervened in four days. The *second* is now grown up. He has five children, and neither he nor they have shown any signs of the diathesis. The *third* is likewise married, and he has two children. Both he and his children are also free from the complaint. The *fourth* son, now 21, is also exempt. The *fifth* son died of sunstroke at the age of 3 months. The *sixth* son bled to death when 7 years old, from the "cutting of a tooth." The *seventh* son, æt. 12, is exempt. The *eighth* son is a bleeder. He has a great tendency to bruise, and he has had several very troublesome attacks of hæmorrhage.

Of the five daughters, the *eldest*, always healthy, has beeen married ten years, and she has had five children. Of these, two boys have shown a marked tendency to bruise and bleed. A daughter is quite healthy. The other two are twin boys only 4 months old. The *second* daughter has been married seven years. She has had three children. One is a girl who died when 2 days old. The other two are boys, both of whom have bled at various times most profusely, the elder bleeding to death from epistaxis when 3 years old. The *third* daughter has been married four years, but she has had no children. The other two daughters are still unmarried.

Infantile Scurvy in a Child Fed on Sterilised Milk (M. Netter, Soc. Med. des Hop.; reported in *La France Méd.*, 11th November, 1898).—The child was 12 months old, and he presented all the signs and symptoms of a typical infantile scurvy. He was pale and apathetic. He had pains in the limbs, and cried whenever he was touched. There was œdema of the feet, discolouration of the skin, subperiosteal hæmorrhages. The gums were swollen and bleeding. The result of treatment confirmed the diagnosis, for administration of an antiscorbutic diet caused rapid and complete recovery. The child had been fed since soon after birth on sterilised milk—milk which had been sterilised by keeping it in a water-bath, the water boiling, for forty minutes.

The Hæmatozoon of Goitre (Dr. Grasset, Acad. des Sciences; reported in *La France Méd.*, 15th July, 1898).—Having accepted the theory of the infectious nature of goitre, Dr. Grasset set himself to find the specific organism. With this in view he has, during the past year, examined the blood of all his goitre patients. In the cases of old standing, nothing abnormal was found; but in eight recent cases, cases of not more than a fortnight's duration, he found the hæmatozoon he claims to be the cause of the disease. This organism is spherical in shape and about the size of a red blood corpuscle. It has no nucleus and contains red pigment granules. Further, a free flagellum, in rapid motion, was made out; also some segmented bodies which contained red pigment granules. The organism in general resembles Lavaran's hæmatozoon, but differs from it in having red pigment granules, and in certain other points. The occurrence of ague in the cases examined was excluded. Dr. Grasset draws attention to the resemblance between goitre and ague. Each has a special geographical distribution, and in each there is enlargement of a ductless gland, viz., the thyroid and spleen.

Books, Pamphlets, &c., Received.

Doctor Therne, by H. Rider Haggard. Longmans, Green & Co. 1898. (3s. 6d.)

On Varix: its Causes and Treatment, by William H. Bennett, F.R.C.S. Eng. London: Longmans, Green & Co. 1898. (3s. 6d.)

A Treatise on "Unripe" Cataract, by William A. M'Keown, M.D. Illustrated by 9 Plates. London: H. K. Lewis. 1898. (12s. 6d. net.)

The Phonendoscope, by A. Bianchi. Philadelphia: George P. Pilling & Son. 1898.

General Nursing, by Eva Lückes. London: Kegan Paul, Trench, Trübner & Co., Limited. 1898. (5s.)

Transactions of the Royal Academy of Medicine in Ireland. Vol. XVI. Edited by John B. Story, M.B., F.R.C.S. Dublin: Fannin & Co., Limited. 1898.

Diseases of Women: a Treatise on the Principles and Practice of Gynecology, for Students and Practitioners, by A. C. Dudley, A.M., M.D. With 422 Illustrations. London: Henry Kimpton. 1898.

Atlas of Legal Medicine, by Dr. E. Von Hofmann. Authorised Translation from the German. With 56 Coloured Plates, and 193 Illustrations in Black. London: The Rebman Publishing Co., Limited. 1898.

Atlas and Abstract of the Diseases of the Larynx, by Dr. L. Grünwald. Authorised Translation from the German. With 107 Coloured Figures on 44 Plates. London: The Rebman Publishing Co., Limited. 1898.

Atlas and Epitome of Operative Surgery, by Dr. Otto Zuckerkandl. Authorised Translation from the German. With 24 Coloured Plates, and 217 Illustrations in Text. London: The Rebman Publishing Co., Limited. 1898.

Atlas of Syphilis and the Venereal Diseases, including a brief Treatise on the Pathology and Treatment, by Prof. Dr. Franz Mracek. Authorised Translation from the German. With 71 Coloured Plates. London: The Rebman Publishing Co., Limited. 1898.

The Treatment of Diseases by Physical Methods, by Thomas Stretch Dowse, M.D. Aberd., F.R.C.P. Edin. Bristol: John Wright & Co. 1898. (7s. 6d. net.)

A Treatise on Human Anatomy, by Various Authors, edited by Henry Morris, M.A. and M.B. Lond. Second Edition, enlarged and revised. Illustrated by 790 Woodcuts. London: J. & A. Churchill. 1898. (36s.)

Observations on Cardio-Vascular Repair, by W. Bezly Thorne, M.D. London: J. & A. Churchill. 1898. (1s.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 17TH DECEMBER, 1898.

	Week ending			
	Nov. 26.	Dec. 3.	Dec. 10.	Dec. 17.
Mean temperature,	38·0°	40·9°	46·8°	47·1°
Mean range of temperature between day and night,	9·2°	13·0°	9·5°	9·4°
Number of days on which rain fell,	4	6	6	6
Amount of rainfall, ins.	1·17	1·47	1·59	0·62
Deaths registered,	268	306	283	266
Death-rates,	19·2	22·0	20·3	19·1
Zymotic death-rates,	2·6	3·1	2·1	2·2
Pulmonary death-rates,	6·2	6·1	6·5	6·2
DEATHS—				
Under 1 year,	60	68	56	51
60 years and upwards,	57	72	56	52
DEATHS FROM—				
Small-pox,	...	...	...	...
Measles,	4	6	5	5
Scarlet fever,	1	2	3	5
Diphtheria,	3	7	2	2
Whooping-cough,	12	15	8	9
Fever,	7	6	6	6
Diarrhœa,	9	7	5	4
Croup and laryngitis,	...	1	1	...
Bronchitis, pneumonia, and pleurisy,	56	64	71	64
CASES REPORTED—				
Small-pox,	...	...	...	...
Diphtheria and membranous croup,	11	6	14	16
Erysipelas,	27	33	32	20
Scarlet fever,	90	79	100	74
Typhus fever,	3	...	4	...
Enteric fever,	36	17	29	24
Continued fever,	..	...	...	1
Puerperal fever,	1	1	2	2
Measles,*	64	61	56	73

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *22nd December, 1898.*

THE

GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

A CASE OF CIRRHOSIS OF THE LIVER IN A CHILD SIX YEARS OLD.[1]

By WALTER K. HUNTER, M.D., B.Sc.,
Assistant Physician, Royal Infirmary; Extra Physician, Royal Hospital for Sick Children;

AND

CHARLES WORKMAN, M.D.,
Pathologist, Royal Infirmary; Professor of Pathology, St. Mungo's College.

Cirrhosis of the liver in children is a rare condition. It is stated in the *Treatise on Children's Diseases*, edited by Professor Grancher, published last year, that in all medical literature there are records of no more than 130 cases, and that Dr. West had only seen 4 cases in 70,000 sick children examined by him. In view of these statements, I think we need have no hesitation in bringing this case before the Society to-night.

A. C., a boy, 6 years old, was admitted into Ward 8 of the Royal Infirmary on 19th September, 1898, in a moribund condition, and he died two and a half hours after admission.

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[1] Case described and specimens shown at a meeting of the Glasgow Medico-Chirurgical Society held on 16th December, 1898.

His illness seems to have dated from about two months before this time, when the parents observed that the abdomen was swollen and that the skin had a yellowish colouration. A little later diarrhœa set in, with from three to four motions in the twenty-four hours. The diarrhœa continued more or less constantly during the two months' illness, and the abdomen gradually increased in size; but the jaundice disappeared after three or four days' duration.

On 13th September, *i.e.*, six days before admission, the patient was sick and vomiting, and he complained of headache. During the next few days the swelling of the abdomen rapidly increased, the breathing became much embarrassed, and it was quite evident to the parents that their child was very ill.

When admitted to hospital, the child, as has been said, was dying. The face was pale, lips cyanosed, superficial veins distended. The respirations numbered 46, the pulse 130, the temperature registered 99° (rectum). The abdomen was greatly distended, and evidently contained a large quantity of fluid. Both liver and spleen were enlarged, each projecting for a considerable distance below the costal arch. Noisy râles were to be heard all over both lungs, and there was dulness with bronchial breathing at the left base behind. The whole aspect of the patient was that of one with chronic valvular disease of the heart; but examination of that organ revealed no evidence of heart disease. The sounds, though short and sharp, were quite pure, and the precordial dull area was not increased. The diagnosis, therefore, arrived at was that of tubercular peritonitis, with tuberculous infiltration of both lungs. But this diagnosis was only provisional, as it did not satisfactorily account for the great enlargement of the liver and spleen, which is seldom so marked in cases of tubercular peritonitis. The true diagnosis, that of cirrhosis of the liver, was not made till after the patient's removal to the *post-mortem* room.

Summary of post-mortem examination.—The body was much emaciated, and there was almost complete absence of adipose tissue. The heart (4 oz.) presented healthy appearances. There was a fresh fibrinous pleurisy on the left side, and the lower lobe of the left lung was consolidated in the stage of red hepatisation. The right lung was congested and œdematous. The spleen (9½ oz.) was greatly enlarged and congested. The liver (23 oz.) was markedly irregular in contour and nodulated. Its right lobe was enlarged; but the left lobe was greatly atrophied, very dense, and looked just like an appendix to the right. On section the organ had much the appearance seen in cases of acute yellow atrophy, the lobules being stained with bile a deep yellow colour. The gall-bladder contained fluid bile. The kidneys (4 oz. each) were much congested. The mesentery contained but little fat, it appeared thickened, and its lymphatic glands were enlarged and caseous. There was marked mucous catarrh of the colon, but the stomach and small intestine presented healthy appearances.

Microscopic examination of the liver showed a pronounced cirrhosis, mostly of the multilobular type, though in places also monolobular. The cirrhosis was most marked in the left lobe, where the glandular tissue was almost completely replaced by inflammatory new growth and vessels. Sections stained with thionin, when examined with one-twelfth oil immersion lens, were seen to contain numerous groups of micro-organisms lying between the columns of liver cells. These micro-organisms appeared to be short, thick rods, and sometimes—probably from irregular staining—as diplococci. The appearances they presented corresponded closely to those of the bacillus coli communis, as recently described by Professor Adami in his cases of cirrhosis of the liver. A similar organism was likewise to be seen in sections of the lungs and kidneys. No culture was taken from any of the organs.

In the light of this *post-mortem* examination, then, the whole case becomes as clear as possible, for the signs and symptoms the patient presented were really those of a typical case of cirrhosis of the liver. We had the gradual swelling of the abdomen, the ascites, diarrhœa, the temporary jaundice, enlargement of the liver and spleen, the cyanosis and involvement of respiration. On questioning the parents, too, it was found that the child in the course of his short life had consumed considerable quantities of alcohol. It seems that when a baby he had bronchitis, and was treated with teaspoonful doses of whisky. He then learned to like the drink, for at any time during the past five or six years that the parents were refreshing themselves (and this seems to have been a not unfrequent proceeding), the child seldom failed to claim his share, and, as the father says, it was seldom he was refused a "little drop." It seems sufficiently clear, therefore, that the amount of alcohol consumed was by no means inconsiderable.

Other than this, no cause can be found to account for the cirrhosis. The only other ailments the patient had suffered from were measles three years ago, and whooping-cough four years ago. He had never been a strong boy, but he was able to go to school, and, indeed, he attended school till six days before his death. There is nothing in the family history to suggest syphilis. The father and mother are alive and well, and they have four other children all fairly healthy.

That alcoholism was the cause of the cirrhosis in this case is by no means certain. Pathologists are still in doubt as to the etiology of cirrhosis of the liver. But the association of alcoholism and cirrhosis is so frequent as at least to suggest some causal relationship between the two. It may be that the alcohol lowers the vitality of the tissues, and thus renders them less able to resist the invasion of pathogenic micro-organisms. The bacillus coli communis, as we know, is an organism seldom absent from some of the abdominal organs, and it seems reasonable to suppose (as Professor Adami suggests) that it is the cause of the cirrhosis. In our case micro-organisms were found in the lungs and kidneys as well as in the liver, showing the infection (if such it be) to be more or less generalised. That the liver should suffer more than the other organs in this infection is, however, by no means strange, as the relationship of the liver to the portal circulation will make it subject much more than the other organs to the ill-effects of chronic alcoholism. But these as yet are little more than surmises, and the true cause of cirrhosis of the liver is not yet certainly known.

A CASE ILLUSTRATIVE OF THE EARLY OCCURRENCE OF EYE SYMPTOMS IN EXOPHTHALMIC GOITRE, WITH REMARKS.[1]

BY JAMES HINSHELWOOD, M.A., M.D., F.F.P.S.G.,

Surgeon to the Glasgow Eye Infirmary, and Assistant to the Professor of Clinical Medicine in the University of Glasgow.

THE patient is a young married woman, 24 years of age. She was quite well up till two years ago, when she received a severe shock, having witnessed the death of two young men by drowning. After that she became very nervous, and suffered considerably from left hemicrania. The pain was confined to the left side of the face, the neighbourhood of the left eye and temple, extending to the vertex. About the beginning of June she noticed prominence of the left eye, and about three weeks thereafter she further observed fulness of the right. She was married at the end of June, and since then the prominence and staring appearance of the eyes have become gradually worse. In order to get advice about this peculiar appearance of her eyes she came to Charlotte Street Eye Infirmary, where she was first seen on 7th November, 1898.

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[1] The patient was shown at a meeting of the Glasgow Medico-Chirurgical Society, 18th November, 1898.

When first seen there was marked exophthalmos of both eyes, with retraction of the upper lid, widening of the palpebral aperture, and absence of winking, thus giving the patient that staring, startled appearance which is so characteristic of Graves's disease. On asking the patient to look downwards, Graefe's symptom was very well marked. With the eye symptoms alone there was therefore no hesitation in forming an opinion as to the nature of the disease from which the patient was suffering. The diagnosis was confirmed by further examination of the patient. She admitted that since the eyes became prominent she had become much more nervous, and that she suffered, though not to a great extent, from palpitation. These symptoms had, however, troubled her so little that she had not sought any medical advice until she came to the Eye Infirmary regarding the prominence of her eyes. On taking her pulse then and on other occasions, it was found to range from 120 to 132 per minute. There was no cardiac murmur. On examination of the thyroid only a very slight prominence was observed, not any greater than is frequently seen in young women in perfect health, and certainly not so marked as to be pronounced pathological.

She was put upon gradually increasing doses of antipyrin, beginning with 5 grains three times daily. When she was shown to the Medico-Chirurgical Society, after a fortnight's treatment, there was a decided improvement as regards the eye symptoms. The prominence of the eyes and the retraction of the upper lid were decidedly less marked. The dose had been gradually increased to 15 grains three times daily. The nervousness, according to the patient's statements, was distinctly less, but the tachycardia remained the same.

Sir Wm. Stokes, in an article in the *British Medical Journal* of 29th October, 1898, remarks that two distinct forms of exophthalmic goitre may be recognised, and that for purposes of prognosis and guide to treatment a distinction should be made between those cases commencing with enlargement of the thyroid, and those commencing with tachycardia. In the cases commencing with enlargement of the thyroid he regards the symptoms as due to toxic substances secreted by the thyroid, and states that therefore little, if any, benefit is as a rule derived from internal medication, but that great improvement, and sometimes complete recovery, can be effected by partial removal of the enlarged gland. Sir Wm. Stokes, however, does not state any opinion as to the results of internal medication in the other class of cases, where the enlargement of the thyroid is not the primary symptom, but he evidently regards these cases as not likely to be benefited by thyroidectomy. Now, a very large number of cases belong to this category, and in a large proportion of these the eye symptoms are the first manifestations of the disease in the patient. This fact has been impressed upon me by my experience at the Eye Infirmary, where such cases present themselves. In another case shown by me to the Medico-Chirurgical Society, and reported in the *British Medical Journal*, 25th June, 1898, the first symptom was unilateral exophthalmos, followed by slight swelling of the thyroid, but without tachycardia. Possibly such atypical cases belong to quite a different category and have a different etiology from the classical type of the disease in which the enlargement of the thyroid is the first symptom, followed usually in regular sequence by tachycardia, palpitation, and, last of all, exophthalmos. Certainly the toxic theory will not account satisfactorily for these atypical cases in which enlargement of the thyroid is a secondary symptom. Nor can an affection of the sympathetic explain satisfactorily all the eye symptoms met with in these cases. If the exophthalmos, and the retraction of the upper lid (Stellwag's symptom), and Graefe's symptom are due to an affection of the sympathetic, how is it that the fibres supplying Müller's muscle are alone affected and those supplying the iris escape? In my case of unilateral eye symptoms there was no difference in the size of the pupils of both eyes. In that case also the disappearance of Stellwag's symptom while Graefe's symptom remained unchanged proved conclusively that these symptoms are entirely distinct and dependent upon different causes. While Stellwag's symptom may be explained by an affection of the smypathetic, another cause must be sought to explain Graefe's symptom, which is really a disturbance of the co-ordinated movement of the simultaneous descent of the upper lid and globe of the eye, and which is probably due to a central disorder of the oculomotor nuclei. This view is strengthened by the comparative frequency in exophthalmic goitre of paresis of the external ocular muscles, and particularly of the internal recti. From a study of the eye symptoms we are led to the conclusion that the changes producing these are in the oculo-motor nuclei, and from the negative evidence of pathological anatomy, that the disturbance is one of function and of the nutrition of the nerve elements as in epilepsy and chorea. It was this view of the disease which led to the administration of antipyrin, which has been given with success in the treatment of epilepsy and chorea. Our experience of it is as yet too limited to draw any important conclusions, but certainly the favourable effects evidenced in these two cases after its administration are highly encouraging.

TWO CASES ILLUSTRATING THE DURATION OF GENERAL PERITONITIS AFTER THE RUPTURE OF A PERFORATING ULCER OF THE STOMACH AND OF THE DUODENUM RESPECTIVELY.[1]

BY JOHN LINDSAY STEVEN, M.D.,

Physician and Lecturer on Clinical Medicine in the Glasgow Royal Infirmary.

THE specimens which I show you to-night are typical examples of the round ulcer of the stomach and duodenum, each of which had ruptured and caused a fatal peritonitis. I also present for comparison with them the specimen of "pin-hole" erosion of the gastric artery which I showed at the last meeting of the Society (see *Glasgow Medical Journal*, January, 1899). It is not, however, to illustrate either the pathology or the clinical phenomena of Cruveilhier's round ulcer that I direct your attention to these specimens to-night. I have a more practical object in view—namely, to demonstrate the exact length of time which may elapse between the period of *complete* rupture of the ulcer and the fatal issue from the resulting general peritonitis. In the first case death took place exactly twenty-five hours and a half after the occurrence of complete perforation; and in the second the patient died about twenty-one hours, at the most, after the first onset of pain. From this point of view the cases are of great practical importance with reference to the surgical treatment of perforated gastric ulcer.

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[1] Read at a meeting of the Glasgow Medico-Chirurgical Society held on 16th December, 1898.

CASE I.—*Gastric ulcer, in which death took place twenty-five hours and a half after the occurrence of* COMPLETE *perforation, with evidence of* PARTIAL *rupture having occurred at least twenty-four hours before the onset of general peritonitis.*

Agnes G., 19, domestic, was admitted to Ward 8 on 23rd November, 1898, complaining of pain in the epigastrium of about two days' duration. She dates her stomach symptoms to a period about six months before her admission, previous to which she had always been quite healthy. During this time her complaint was not of pain, but rather of a feeling of sourness after her food. The sourness was felt about ten minutes after a meal, and was shortly followed by vomiting. This occurred more or less after every meal she took, the vomited material being the food practically unchanged. She never saw blood in the vomit, which was likewise never coffee-ground in appearance; and she could not say that she had ever seen blood in the motion of the bowels, although she admitted that they were sometimes dark in the colour. Her appetite was all along rather poor; she took the ordinary food of the house, and she never thought it worth while to consult a doctor.

She was certainly not feeling worse than usual at the time of onset of the acute symptoms.

On Monday, 21st November, immediately after a meal consisting only of tea, bread and butter, partaken of in the evening, she was seized with pain in the epigastrium. It was not very acute, but kept her from sleeping for about two hours after she went to bed, which she did at the time the pain began. She was quite free from it in the morning, and went about the during the whole of Tuesday, the 22nd November, feeling quite well in her general health, but with no appetite. On the evening of Tuesday, about 8 P.M., after taking a meal of tea and bread and butter, the pain recurred. It was much more severe, however, and kept her from sleeping the entire night. A medical man saw her on Wednesday, 23rd November, at 10 A.M., who ordered hot fomentations, and recommended her removal to the Royal Infirmary from Cambuslang, a distance of 4 miles, where she arrived about 2·15 P.M.

She never had any illness until that just described. Her menstruation had always been perfectly regular from the age of 17. She had been in service, but for nine months before admission had been entirely engaged in managing her father's house. She had always had good food.

On my receiving days at the Infirmary I am frequently in the habit of visiting my wards in the afternoon or evening. On the afternoon of the 23rd November I paid a visit shortly after four o'clock, and when about to leave, after having seen one or two urgent cases, my attention was directed to this patient, the gravity of whose condition, owing to great pressure of work during the afternoon, had not apparently been previously fully recognised.

I saw the patient at 5·30 P.M., when it was at once obvious to me that she was suffering from general peritonitis. Her face was pale; the expression somewhat anxious. The decubitus was dorsal, but the knees were not drawn up. At this time she made no urgent complaint of pain; indeed, she was somewhat drowsy, and inclined to dose. The pulse was small and thready in character, numbering about 140 per minute; the respirations were shallow, numbering 64. The pupils were moderately dilated and equal. On exposing the abdomen, moderate, but quite obvious, distension of the abdominal wall was at once apparent. The distension was not uniform, there being a transverse depression an inch or two above the level of the umbilicus, below and above which dilatation of the abdominal wall was very obvious. Percussion was everywhere tympanitic, and on any but the most gentle palpation extreme tenderness was complained of. The hepatic dulness could not be differentiated. The urine was normal.

The possibility of gastric perforation at once suggested itself to me, and the patient was removed from the sideroom in which she had been placed on admission to the general ward, so that she might be under more continuous observation. At the time of my visit the patient was so ill, and the history of a complete perforation having occurred almost twenty-four hours before so clear, that immediate surgical interference did not recommend itself to me. Hot applications and stimulation were recommended, and instructions were left that I should be informed in two hours of her condition. At the end of this period, however, she was so ill that all question of surgical interference had disappeared, and she died at 9·35 P.M.

Summary of post-mortem examination, which was performed by Dr. Charles Workman, on the morning after death :—

Heart and lungs normal. Liver is slightly enlarged, and shows considerable fatty change. The omentum and loops of bowel are adherent by abundant fresh fibrinous deposit, and the peritoneal cavity contains a quantity of very sour-smelling yellow fluid, which has evidently escaped from the stomach through a rounded opening the size of a threepenny piece, which was at once visible on raising the left lobe of the liver. In the anterior wall of the stomach, about midway between the œsophageal opening and the pylorus and close to the upper curvature, there is a round perforating punched-out ulcer, the opening in the mucous coat being wider than that in the muscular coat, and this wider than the opening in the serous coat. Through the opening, the escape of material from the stomach has occurred. The spleen, the pancreas, and the kidneys were normal.

I may also add that the appearance of the peritoneal surface, for about an inch around the perforation, was suggestive of recent adhesions having been formed between the stomach wall and the under surface of the left lobe of the liver. The first attack of pain on Monday, 21st November, was probably due to a partial rupture of these, and one cannot help thinking that under appropriate treatment the final rupture might have been avoided and general peritonitis averted.

CASE II.—*Ulcer of the duodenum, proving fatal from general peritonitis, twenty-one hours after the occurrence of perforation.*

The patient was a nurse-probationer in the Glasgow Royal Infirmary, aged from 25 to 30. Although complaining at times of indigestion for some time before her death, this had never been so severe as to cause her to seek medical advice. On Saturday evening, 9th September, 1893, at twelve o'clock, after holding a fractured limb, which was being set by the house-surgeon, she suddenly complained of severe pain in the abdomen, and had to go off to bed. The house-surgeon of her ward saw her, and regarding her symptoms as probably those of constipation, ordered castor oil and fomentations. On the Sabbath morning, the pain was still severe, and she kept bed, fomentations being continued. At this time I was acting as physician to the nurses of the Infirmary, but was not informed of the case during the day. About 8·30 P.M., however, as the patient had become very weak, I was sent for, and arrived at 9 P.M., to find that she had just died before my arrival. On Tuesday, 12th September, I made a *post-mortem* examination, of which the following is a report:—

External appearances.—The body is well nourished. Rigor mortis firm; *post-mortem* lividity well-marked on back, and in fingers and toes. Pupils moderately dilated and equal. The abdomen is slightly enlarged, and very tense. On cutting through the linea alba, gas escapes with an explosive noise, and on laying open the peritoneal cavity, it is found to contain a considerable quantity of brownish-coloured fluid, in which are floating many large globules of oil. The whole of the intestines are covered with a smooth layer of green-coloured fibrin, which mats the loops of intestine together, and has fastened down the great omentum over them like an apron. Continuous with the smooth adherent omentum, the outline of the anterior portion of the stomach is made out, and in the region of the pyloric aspect of the organ a large opening, with clean, sharp edges, is observed. The opening is in area the size of a threepenny piece, and from it issue the contents of the stomach. Whether this ulcer is within or without the ring of the pylorus cannot be determined from without. On removing the stomach, and laying it open along the lesser curvature, the ulcer is found to be in the duodenum, just outside the ring of the pylorus. It is not quite circular in shape, but its edges are clean, and tolerably sharp. The tissues around this ulcer are thickened from infiltration, and the duodenal opening has led into a cavity, which has evidently gone on getting deeper and deeper, until nothing but the layer of peritoneum has been left. The perforation has been due to the sloughing of this layer.

The gastric mucous membrane is healthy in every part, and of a normal pink colour. The viscus contains half-digested milk in considerable quantity.

The cæcum and appendix are healthy. The amount of peritoneal fibrin in the pelvic region is astonishing, considering the short duration of the disease.

Uterus, ovaries, and Fallopian tubes present quite healthy appearances, but their peritoneal surfaces are covered with fibrin.

The kidneys and liver are healthy, as are also the heart and lungs. The lungs especially are remarkable for their non-pigmented character and their healthy consistence throughout.

What especially struck me in both of these cases was the excessively severe character of the peritonitis, and the general character of the matting of the intestine which had taken place. The principal lesson the cases teach is, that after twenty hours from the occurrence of complete perforation with discharge of gastro-intestinal contents into the general peritoneum, surgical interference must be almost, if not absolutely, hopeless.

SOME RESULTS OF GASTRIC ANALYSIS IN STOMACH DISEASE, WITH ILLUSTRATIVE CASES.

By CARSTAIRS DOUGLAS, M.D., B.Sc.

In the December number of this *Journal* for 1898, I described the clinical application of certain chemical methods in the diagnosis of gastric disorders, pointing out that it was possible, in a reasonably short space of time, to obtain definite and reliable information regarding the nature of the various acids, the total acidity, the products of digestion, and the chief abnormal constituents that are met with in the stomach contents. I propose now to illustrate these methods with some typical cases which I have examined, but before doing so would call attention to some other abnormal elements in gastric fluids which have been objects of interest and investigation from time to time. Some of these, indeed, are not related to disease of the stomach from an etiological standpoint, but are associated rather with morbid processes in other organs or with disturbances of the general metabolism.

Urea, in cases of uræmia, is often excreted from the blood into the stomach, and may be detected as such in that organ; according to Sahli,[1] however, it is usually converted into ammonium carbonate in the stomach, and may communicate an ammoniacal odour to the patient's breath. The salt may be detected by shaking up some of the gastric fluid with milk of lime in a beaker, and covering with a glass plate to the under surface of which a piece of moistened red litmus paper has been attached. The change of colour of the test paper by the liberated ammonia at once reveals its presence. The discovery of such a substance in excess, however, is an indication not of gastric disturbance or disease, but of a constitutional poisoning having its origin in organs quite apart from the stomach.

Acetone has not infrequently been detected in the stomach. Its presence in digestive disturbances has been specially studied by Lorenz,[2] who states that he found it frequently in the gastric contents, while v. Jaksch obtained it in 31 out of 41 cases, most of which, however, were not cases of stomach disease. On the other hand, Savelieff[1] investigated 16 cases of disease of the organ, and came to the conclusion that its presence is a very rare event, as he found it only in one case (dyspepsia in a neurasthenic).

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[1] Sahli, *Lehrbuch der klinischen Untersuchungsmethoden*, 1894, s. 314.

[2] Lorenz, "Untersuchungen über Acetonuria mit besonderer Berücksichtigung ihres Auftretens bei Digestions-storungen," *Zeitsch. f. klin. Med.*, 1891, Bd. xiii, s. 19.

I have myself found it once or twice in dilatation of the stomach. When present it can be easily detected by distilling the stomach contents, after the addition of a little dilute phosphoric acid, and applying Lieben's iodoform reaction to the distillate.

Probably in the majority of cases in which it occurs it is to be regarded not as a sign of any grave disorder of the stomach, but as an indication of disturbance of the general metabolism, especially that of nitrogenous tissue, which probably explains its occasional presence in cases of advanced emaciation and in the cachexia of cancer. In any case, I think we may agree with Clifford Allbutt[2] that acetone is not formed in the stomach to any dangerous amount.

Alkaloidal bodies or ptomaines.—We may ask, in the last place, if any light is to be obtained from the analysis of gastric fluids for alkaloidal toxines or ptomaines; I do not mean those introduced ready-formed in tainted meat, but poisons developed from wholesome food within the stomach.

This point has been specially studied with reference to the connection between tetany and dilatation, or other derangement of the stomach. For example, Kulneff[3] isolated a basic decomposition-body in several cases of gastriectasis, and in three cases of tetany associated with hyperchlorhydria of the gastric juice, Bouveret and Devic[4] obtained from the stomach a poison capable of causing convulsions. Ewald and Jacobson[5] investigated the cases of a man with dilatation of the stomach and accompanying mental disturbance, and of a girl with tetany and stomach derangement, and obtained an alkaloidal body from the urine, not from the vomit. They obtained a similar positive result in two cases of carcinoma ventriculi. Albu[6] obtained an alkaloidal body from the stomach contents in a case of auto-intoxication from the alimentary canal, while in a case of tetany with intestinal disease (which afterwards died) he was able to extract a similar substance from the urine. Charrin[1] describes a poison which Cassäel and Féré extracted from the gastric juice of a patient with Reichmann's disease, which was vaso-constrictive, myotic, dyspnœic, and anæsthetic. He himself, however, thinks that the self-poisoning in gastric disease is probably due to several substances, such as diastases, albumens, toxins, and acids. Bouchard,[2] also, while laying the greatest possible stress upon auto-intoxication, abstains from naming any one poison, and speaks in general terms of toxins the result of fermentative or putrefactive processes.

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[1] Savelieff, "Ueber das Vorkommen von Aceton im Mageninhalt bei Erkrankungen des Magens," *Berl. klin. Woch.*, 1894, No. xxxiii, s. 754.

[2] Clifford Allbutt, *A System of Medicine*, 1898, vol. iii, p. 501.

[3] Kulneff, "Ueber basische Zersetzungsproducte im Magen und Darminhalt," *Berl. klin. Woch.*, 1891, No. 44.

[4] Bouveret et Devic, "Recherches clinique et experimentelles sur le tétanie d'origine gastrique," *Revue de Médicine*, 1892, tome xii, p. 48.

[5] Ewald and Jacobson, "Ueber ptomeinartige Körper in Harn bei chronischen Krankheitsprocessen," *Berl. klin. Woch.*, 1894, No. 2, s. 25.

[6] Albu, *Ueber die Auto-intoxicationen des Intestinal-tractus*, Berlin, 1895, s. 59.

On the other hand, Berlizheimer[3] says that tetany of gastric origin is very rare, and that at the time of writing (September, 1897) only eleven genuine cases were on record (quoting from v. Frankl-Hochwart). He relates one case that was admitted to v. Jaksch's clinic in Prague with a dilated stomach, where genuine tetany set in, and the patient died. No ptomaine or diamine could be isolated from the stomach contents, and injection of the latter into animals caused no toxic symptoms. The origin of the tetany in such a case would probably be referred to reflex influences. Now we may certainly admit that some cases of tetany do bear an etiological relationship to dilatation of the stomach, and Mayo Robson[4] has recently reported three cases where surgical interference was successfully carried out on the stomach for the relief of the tetanoid condition. We may also admit that persons suffering from gastriectasis with fermentation are frequently the subjects of various constitutional disturbances, which I have seen marvellously relieved by lavage of the organ. But when we bear in mind the extreme frequency of dilated stomach, and the extreme rarity of the tetany condition in these cases; when Charrin[5] tells us that persons who suffer from disorders of the stomach suffer also, as a consequence, from headache, psychical disorders, neuralgia, dyspnœa, bronchitis, cutaneous affections, albuminuria, and changes in the joints; and, finally, when we find Bouchard[6] seriously affirming that dilated stomach is associated etiologically with insomnia, hemiopia, diplopia, and weakness of the right internal rectus of the eye, with transitory dropsy of the extremities, pityriasis, pseudo-angina pectoris, purpura, phlebitis, and nodosities of the articulations—we feel convinced either that the French clinicians have reared an enormous and elaborate pathological edifice upon a very slender and insecure foundation, or else that dilated stomach among our Gallic confrères is a different thing to that with which we are confronted in this country. The position which we may take up with regard to this point is indicated to us by Clifford Allbutt, who says it is possible that one or more soluble poisons formed or perhaps unneutralised in the stomach are absorbed, and act as the cause of tetany; and I feel convinced, from a somewhat extensive study of the subject, that as yet no positive and definite information is to be obtained from the search for toxic albuminous bodies in the stomach, while the chemical processes involved in such investigations render them impracticable in ordinary clinical work.

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[1] Charrin, *Poisons du tube digestif*, Paris, 1895, p. 36.

[2] Bouchard, *Lectures on Auto-intoxication*, p. 154.

[3] Berlizheimer, "Ueber einen Fall von Magentetanie," *Berl. klin. Woch.*, 1897, No. 36, s. 773.

[4] Mayo Robson, *Brit. Med. Jour.*, 1898, vol. ii, p. 1559.

[5] Charrin, *op. cit.*, p. 61.

[6] Bouchard, *op. cit.*, p. 159.

To sum up, the really important information gained by gastric analysis is not simply that derived from the consideration of any individual constituent of the stomach contents, except perhaps in the case of free HCl and the organic acids. The real value of such analysis is that it presents a picture of the condition of the gastric chemistry in the individual case, indicating to us along what lines and how far along them it deviates from the normal. In this way it aids us in diagnosis, and, while the patient is under our care, it reveals with accuracy the degree of disturbance of the digestive processes from time to time, and thus not infrequently affords us a useful hint as to treatment and prognosis.

In selecting typical cases for illustration, I have chosen the following out of a large number I have examined during the past year:—(1) Dilatation with bacterial decomposition of contents; (2) simple dilatation without fermentation; (3) cancer of the pylorus; (4) mechanical pressure on stomach, with passive congestion and possibly erosion; (5) chronic ulceration and chronic catarrh; (6) gastric crisis in locomotor ataxia.

1. *Dilatation with bacterial decomposition.*—J. O., æt. 32, admitted to Ward III, Western Infirmary, in February, 1898. Stomach dilated, marked splashing several hours after food, and eructations and flatulence present. Stomach-tube removed abundant whitish-brown fluid with sour or gastric odour.

CHEMICAL EXAMINATION.

	No. 1—26th April.	No. 2—3rd May.
Reaction, . . .	Acid to litmus and Congo-red.	Acid to litmus and Congo-red.
Total acidity, . .	0·372 per cent.	·383 per cent.
Free HCl, . . .	Present.	Present (scanty).
Lactic acid, . . .	Absent.	Present (trace).
Volatile organic acid, .	Present (acetic).	Present (acetic and butyric).
Peptones, . . .	Present.	Present.
Sugar, ...	Do.	Do.
Starch, ...	Do.	Absent.
Blood, ...	Absent.	Do.
Bile, ...	Do.	Do.
Pepsin, ...	Feebly active.	Active.

	No. 3—11th May.	No. 4—13th May.
Reaction, . . .	Acid to litmus and Congo-red.	Acid to litmus and Congo-red.
Total acidity, . .	·50 per cent.	·412 per cent.
Free HCl, . . .	Present (distinct).	Present (distinct).
Lactic acid, . . .	Present.	Present.
Volatile organic acid, .	Do.	Present (butyric).
Peptones, . . .	Do.	Present.
Sugar, ...	Do.	Do.
Starch, ...	Do.	Do.
Blood, ...	Absent.	Absent.
Bile, ...	Do.	Do.
Pepsin, ...	Active.	Feebly active.

The chief points brought out here are the high degree of acidity in the stomach contents in such a case, the constant presence of free HCl, the general occurrence of lactic acid, and the constant presence of the volatile organic acids. The other constituents of gastric juice were normal, but the pepsin was somewhat feeble in action at times.

2. *Simple dilatation without fermentation.*—Mrs. M., æt. 54, Ward VIII, Western Infirmary. Stomach dilated to below navel; marked splashing several hours after food. Stomach-tube removed light-brown soup-like material with gastric but not sour smell; no sarcinæ found.

CHEMICAL EXAMINATION.

	No. 1—28th Oct.	No. 2—14th Nov.	No. 3—17th Nov.
Reaction,	Positive to litmus and Congo-red.	Acid to litmus and Congo-red.	Stomach washed out after a test-meal, and found to be practically empty.
Total acidity,	·251 per cent.	·226 per cent.	
Free HCl,	Present (distinct).	Present (scanty).	
Lactic acid,	Absent.	Absent.	
Volatile organic acid,	Do.	Do.	
Peptones,	Present.	Present.	
Sugar,	Do.	Do.	
Starch,	Do.	Absent.	
Blood,	Absent.	Do.	
Bile,	Do.	Do.	
Pepsin,	Feebly active.	...	

In this case, as contrasted with the preceding, the total acidity is as low as, or lower than, the normal figure; lactic and the volatile organic acids are absent, while the digestive products are practically the same. Free HCl occurs in both the analyses. The patient left hospital before further observation could be made.

3. *Cancer of the pylorus.*—J. L., æt. 57, admitted to Ward III, Western Infirmary, 20th August, 1898. Stomach dilated to navel; marked peristalsis; splashing several hours after food; later on, distinct tumour found at pylorus; stomach-tube removed large quantities of light-brown fluid; many long slender bacilli present; patient died on 25th October.

CHEMICAL EXAMINATION.

	No. 1—20th Aug.	No. 2—18th Sept.	No. 3—10th Oct.
Reaction,	Reacts to litmus and Congo-red.	Reacts to litmus and Congo-red.	Reacts to litmus and Congo-red.
Total acidity,	·518 per cent.	·373 per cent.	·357 per cent.
Free HCl,	Absent.	Absent.	Absent.
Lactic acid,	Present.	Do.	Present.
Volatile organic acid,	Do.	Present (butyric).	Do.
Peptones,	Do.	Trace.	Trace.
Sugar,	Do.	Present.	Present.
Starch,	Do.	Do.	Do.
Blood,	Absent.	Doubtful.	Absent.
Bile,	Do.	Absent.	Do.
Pepsin,	Present and active.	Absent or inactive.	Absent or inactive.

A striking point in the foregoing table is the absence of free HCl on every occasion. In addition, the case presents the features of dilatation with fermentation, there being always a high degree of acidity as well as the presence of lactic and volatile acids. As it progressed, the pepsin became feeble in action and the digestive products less and less in amount.

I now append three cases where the stomach contents were given me for examination with a view to aid the diagnosis. In the first case the stomach-tube was used after an ordinary breakfast; in the second, the vomited matter was sent by post; while in the third, the tube was passed after a test-meal. The following results were obtained:—

	No. 1—6th May.	No. 2—21st May.	No. 3—27th June
Reaction, . .	Reacts slightly to litmus; negative to Congo-red.	Reacts to litmus and Congo-red.	Reacts to litmus and Congo-red.
Total acidity, .	·029 per cent.	·375 per cent.	·365 per cent.
Free HCl, .	Absent.	Absent.	Present (distinct).
Lactic acid, .	Do.	Present (distinct).	Present.
Volatile organic acid, . .	Do.	Present (butyric).	Present (a trace).
Peptones, .	Present (scanty).	Present.	Present.
Sugar, . .	Present.	Do.	Present (a trace).
Starch, . .	Absent.	Do.	Absent.
Blood, . .	Do.	Absent.	Do.
Bile, . .	Do.	Do.	Do.
Pepsin, . .	Feeble in action.	Absent or inactive.	Feeble in action.

The first case (W. M., aged 45) is suggestive at once of malignant disease, with accompanying atrophy of the gastric mucosa; free HCl is absent, as are also organic acids. The total acidity is very low, and as no reaction was obtained with Congo-red we may ascribe it almost entirely to acid salts. Peptones were scanty and the pepsin present feeble in action, the whole exhibiting a picture of digestive power of a very inferior degree. The patient was admitted shortly afterwards into the Cancer Hospital, where Dr. Beatson opened the abdomen and found malignant disease of the liver, secondary to a primary growth at the pyloric end of the stomach. The patient is now dead.

The second case presents the features which characterise malignant disease plus dilatation and fermentation. The total acidity is high, free HCl is absent, and both lactic and volatile acids occur. The patient (A. F., aged 47) died within a month of the examination from wasting and inanition.

The third analysis is that of the stomach contents of a man, aged 47, who was in the Western Infirmary under the care of Dr. Crawford Renton, who was good enough to ask me to examine the gastric fluid obtained after a test-meal. The analysis points to a case of bacterial fermentation with dilatation, there being free HCl, lactic and organic acids. Careful examination revealed no tumour, but there was ill-defined resistance at the pylorus.

These three cases well exemplify the value of chemical methods as adjuncts to ordinary clinical examination.

4. *Mechanical pressure on stomach, with hæmatemesis.*—J. A., æt. 52, admitted to Ward VIII, Western Infirmary, on 21st May, 1898. Patient had an irritable stomach, and had vomited blood on six occasions; she was anæmic and thin, and had lost flesh. The abdomen was occupied by a large hard fibroid tumour of the uterus, as large as an eight months' pregnancy. The bowels were very costive. The fluid used for analysis was always that which was vomited: it was usually abundant, plum-coloured, and rejected by the stomach under very slight provocation. Chemical analysis gave the following:—

	No. 1—21st May.	No. 2—16th June.	No. 3, &c.
Reaction, . .	Acid to litmus and Congo-red.	Acid to litmus and Congo-red.	Blood on several other occasions, but later on absent from vomited matter. Free HCl always present when looked for.
Total acidity, .	·386 per cent.	·412 per cent.	
Free HCl, . .	Present (distinct).	Present (distinct).	
Lactic acid, .	Absent.	Absent.	
Volatile organic acid, . .	Do.	Do.	
Peptones, . .	Present.	Present.	
Sugar, . .	Do.	Do.	
Starch, . .	Do.	Do.	
Blood, . .	Abundant.	Abundant.	
Bile, . .	Absent.	Absent.	
Pepsin, . .	Present and active.	Present and active.	

This analysis is similar to that often met with in the acute stage of round ulcer of the stomach, with high degree of acidity, free HCl, and pepsin always present, and lactic and volatile acids absent. The free bleeding here was probably due to mechanical pressure causing venous congestion, or it may have arisen from true erosion of the gastric mucosa. The general condition of the patient suggested that it might be malignant mischief, possibly secondary to cancerous degeneration of the fibroid. The analysis, however, was against that, and as time went on the vomiting became less and the bleeding ceased, the patient's general condition improved, and the uterine tumour appeared to diminish slightly in bulk. The patient left hospital on 30th September, and when last heard of (December) was in tolerable health, and had much less gastric disturbance than she had six months ago.

5. *Chronic ulceration of stomach.*—In these cases, often of long standing, there is frequently an associated catarrh. The following case exemplifies the condition of affairs met with. M. M., æt. 50, with long-continued indigestion and frequent vomiting.

	No. 1—18th Sept.	No. 2—14th Oct.
Reaction, ...	Reacts to litmus; negative to Congo-red.	Acid with litmus and Congo-red.
Total acidity, . . .	·204 per cent.	·223 per cent.
Free HCl, . . .	Absent.	Traces.
Lactic acid, . . .	Trace.	Absent.
Volatile organic acid, .	Do.	Do.
Peptones, ...	Present.	Present.
Sugar, ...	Do.	Do.
Starch, ...	Absent.	Do.
Blood, ...	Do.	Absent.
Bile, ...	Do.	Do.
Pepsin, ...	Slightly active.	...

In cases of this kind the acidity is generally low, free HCl is scanty, and the digestive power is enfeebled. Such cases often pass into those of dilatation, with or without bacterial fermentation. It will be noticed here that on one occasion when no free HCl was present there was a slight formation of organic acids.

6. *Gastric crises in locomotor ataxia.*—In considering nervous affections of the stomach, or gastric neuroses, we may conveniently divide the cases into two groups:—(1) Those in which the primary affection is the gastric one, the nervous symptoms being secondary to this; and (2) those where the nervous lesion is the antecedent factor, the stomachic disorder supervening upon this. An example of the first group is found in cases of gastric irritation and hyperacidity, with a later development of neurasthenia or hypochondriasis, and of the

second class in the gastric crises of locomotor ataxia. It is of the latter group that I give an example.

W. H., æt. 27, Ward III, Western Infirmary. Patient was in pre-ataxic stage, and had tolerably severe gastric crises. The vomiting was very copious, sometimes watery and mucoid, frequently bilious, or containing large quantities of blood (plum-coloured). Analysis gave the following results:—

	No. 1—17th Oct.	No. 2—15th Nov.	No. 3—22nd Nov.
Reaction, . .	Reacts to litmus and faintly to Congo-red.	Acid to litmus and Congo-red.	Acid to litmus; faintly to Congo-red.
Total acidity, .	·30 per cent.	·233 per cent.	·262 per cent.
Free HCl, .	Present (scanty).	Present (scanty).	Absent.
Lactic acid, .	Traces.	Absent.	Traces.
Volatile organic acid, . .	Absent.	Do.	Do.
Peptones, .	Present.	Present.	Present.
Sugar, . .	Do.	Do.	Do.
Starch, . .	Do.	Absent.	Traces.
Blood, . .	Do.	Abundant.	Absent.
Bile, . .	Do.	Present.	Do.
Pepsin, . .	Present and active.	Present and active.	Inactive.

There is nothing specially striking about the above analyses, except that the amount of free HCl was small, and that blood occurred several times in the vomit. It will be noted that the total acidity does not exceed that present in health. A good deal of interest has been taken in the gastric crises of locomotor ataxia, and various investigators have studied the composition of the stomach contents. Sahli,[1] some years ago, found excessive acidity of the gastric juice in this condition, but his statement is unreliable, as he made no exact quantitative estimation, but merely relied on the intensity of the colour reaction as judged by the eye. Marie[2] quotes Rosenthal, who found excess of HCl in the early days of the crises, and says that small quantities of lactic acid may may be present, as I found myself on at least two occasions. Grasset[3] gives no details regarding the composition of the fluid, but merely states that it is a colourless mucous liquid mixed with bile and sometimes with blood, while Möbius[1] considers hyperacidity to be the exception in these cases, and that the amount of acid is usually small. I hope on a subsequent occasion to publish the results of some quantitative estimations of the various acids met with in the stomach contents during the crises in this disease.

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[1] Sahli, "Ueber das Vorkommen abnormer Mengen freier Salzsaüre bei den gastrischen Krisen eines Tabekiters, &c.," *Correspbl. f. Schweiz. Aertze*, 1885, No. xv, s. 105.

[2] Marie, *Lectures on Diseases of the Spinal Cord*, 1892, p. 263.

[3] Grasset, *Traité pratique des maladies du système nerveux*, Paris, 1894, quat. ed., p. 513.

In conclusion, I have to express my obligation to Dr. Finlayson, Dr. Renton, and others who have very kindly afforded me opportunities of procuring material for the foregoing analyses.

A CLINICAL CASE OF TRANSVAAL MALARIA.

By JAMES BOYD, F.R.C.S. EDIN.,

Late Senior House Physician, House Surgeon, Resident Physician Throat and Nose Wards, Glasgow Royal Infirmary.

THE following notes are intended to illustrate an ordinary first attack of malaria combined with medical treatment:—

A. M., æt. 29, a German, has been in the South African Republic for two and a quarter years, but up to a month ago has lived in the "high Veldt." During the last month he has been employed as a garden assistant in the "low Veldt," turning up fresh soil, and the weather during that time has been more or less wet.

23rd November, 1898.—Yesterday was quite well. This morning severe pains throughout the body, aggravated on movement. Headache general, but more pronounced in frontal region. Continued work all day. In the evening he felt so ill that he could scarcely walk from weakness. Absolute loss of appetite. Slept fairly well that night. Feeling "dreadful."

24th November.—Felt worse, pains worse. At 9 A.M. had cold shivers lasting half an hour; then hot stage, with copious sweating, lasting about two hours; then alternate cold and hot (no sweating) during rest of day. Morning temperature, 105°. At noon had 8 grs. of calomel. Evening temperature, 104·8°; pulse, 75, full and regular.

25th November.—Vomited about a couple of pints of bile, and the bowels were moved ten times quite painlessly. Morning temperature, 103°; 8 grs. of quin. sulph. given; one hour and two hours later, temperature 103°. The vomiting by this time had quite stopped. Feels somewhat better. Pains greatly lessened. A sensation of loss of circulation below the knees, especially pronounced in the left leg. No anæsthesia of inferior extremities. Headache still present. Noises and dizziness from quinine. The spleen is distinctly enlarged to percussion, and the edge is felt just beyond the margin of the ribs. It is also tender. Afternoon, 6 grs. of quin. sulph. Had a little bread and tea for supper. One hour after supper, 6 grs. of quin. sulph. Two hours later vomited supper; no bile present. Evening temperature, 103°.

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[1] Möbius, *Twentieth Century Practice of Medicine*, 1897, vol. xi, p. 837.

26th November.—Complained of being very hot during the night (the hot weather has just set in), but feels a good deal improved this morning; no pain; no headache. The tongue, which had been thickly coated at the onset, became quite clean and moist immediately after the calomel's double action of purgation and vomiting, with the exception of a slight yellowish discolouration now completely disappeared. Morning temperature, 101·6°. Had two eggs, tea and bread for breakfast; milk and butter very scarce here owing to the late rinderpest. The languor is still very pronounced, the patient remarking he could go back to work if he did not feel so tired. The numbness has gone from the legs. The spleen cannot now be felt, though still enlarged to percussion, and there is no tenderness. Up to the present there has been no jaundice. Liver dulness has been always normal. During the day has had 10 grs. of quin. sulph.

27th November.—Not a very good night last night. Nightmare very bad at 3 A.M., when the temperature was 101°, lowest up to now. Still under the influence of quinine, noises and deafness. Early in morning given 1 oz. of Epsom salts. Had "tremendous" motion, lasting over forty-five minutes; painless; colour and odour unable to be noted. Feels quite well, only "tired." Nourishment—taken part of egg, four or five tablespoonfuls of soup, a little stewed tripe, bread and tea. Appetite somewhat poor. 10 grs. of quin. sulph during the day. Tongue clean, but there is still a good deal of fibrillar twitching, which has been present throughout. Patient is almost a total abstainer. No pains; no headache; no alteration in spleen since yesterday. As the patient is lying in a room with a galvanised iron roof, with a temperature in the sun of 120°, he is not under the most satisfactory conditions for a quick recovery. His temperature has varied from 101° to 102·2° (evening) during the day; pulse, 75, regular and good.

28th November.—Temperature this morning 100·4°. Spleen less in size, and not tender. Still some nightmare again last night, but less than the previous one. Very hot at night, and sleep in consequence a good deal disturbed. Pulse not quite so good, somewhat soft and easily compressible, 65 per minute. Feels further improved, though still "tiredness" pretty pronounced. The fibrillar twitchings of the tongue (which continues clean) still continue, but less markedly. The urine, which had been previously thick, highly coloured, trace of bile, somewhat scanty (not measured), with a very unpleasant odour, has now become normal, the slight trace of albumen present having quite disappeared. Appetite somewhat improved. Evening temperature, 101·4°.

29th November.—Morning temperature, 99·4°; evening, 102·2°. 10 grs. of quin. sulph. during day. Since the action of the calomel all hot and cold shivers have disappeared. Progress quite satisfactory.

30th November.—Temperature, morning, 100·2°. Had 5 grs. quin. sulph. The evening temperature again reached 102·2°. 6 grs. of calomel ordered, to be followed in morning by 1 oz. of mag. sulph. Appetite greatly improved. Languor passing quickly off.

1st December.—Temperature, morning, normal; went up to 99° in the evening. No quinine. Bowels were well moved four times before temperature was taken in morning. Spleen normal. Patient was allowed up for a little time in the morning, but as it came on to rain heavily was sent back to bed. The "lazy" feeling has almost passed off.

2nd December.—No temperature. Appetite good. Has returned to light work. Sleeps well now with no nightmare. The fibrillar twitchings of tongue have quite disappeared. 5 gr. doses of Howard's ferri et quin. et strych. cit. three times a day to correct the anæmia, with a gentle saline aperient every second morning have been ordered.

5th December.—Patient states he is almost as well as ever. Anæmia still somewhat marked.

Remarks.—It may be noted that the disease was contracted in an infected district, where, during the last two years, almost no one has escaped, by a new-comer turning up fresh wet ground.

Treatment.—The treatment of malaria (I am speaking of the type met with in the low country and round the east coast) can not be summed up in the word quinine any more than that the only treatment for dysentery—as some writer has remarked—is ipecacuanha. Clinically it is best, I think, to look upon this South African fever as a "bilious" one, largely involving the spleen, and, therefore, the blood. A very usual accompaniment of the attack is an excessive secretion of bile, as evidenced by biliary stools, biliary vomiting, biliary urine, with marked, and very frequently permanent, pigmentation of the skin and conjunctivæ. The anæmia in old cases is very pronounced, but up to the present I have been unable, through lack of proper instruments, to give a detailed examination of the blood. After repeated attacks the loss of weight is often very considerable, 2 and 3 stones and more, and if the patient remain in the malarial district the weight is never recovered to any fair amount. With regard to patients who have been enabled to be invalided home, I have not got enough data before me to speak with certainty about their recovered weights, if any. With regard to the action of quinine in the above case, it may be observed that it had little or no effect on the temperature. When the first dose of calomel was given (24th November) the temperature was 104·8°, and when it had ceased acting it had fallen nearly two degrees (to 103°). The 8 grs. of quinine which followed made no difference in the temperature. Of course, it may be remarked that it may have kept the temperature from rising. That action of the quinine may, however, be excluded, as, when the calomel was repeated on the 30th November, followed by some Epsom salts, the temperature at once fell to normal from 102·2°, where it has since remained without any quinine being afterwards given. In a very large number of cases of malaria coming under my notice the action of the quinine has been always the same, although in many cases given in doses twice and three times the size of those given in the above cases. If the case be seen early, and a good dose of calomel (8 to 10 grs.) with, in a strong patient, 2 or 3 grs. of jalapine in addition, be given, the excess of bile is quickly got rid of by means of the stomach and bowel, and that without any appearance of jaundice. In children, calomel, with a few grains of rhubarb, often acts like a charm. For a child of 6 years: 4 grs. hydrarg. subchlor., 6 grs. of pulv. rhei.—to be given in a little jam at bedtime, and followed in the morning by 3 drs. of mag. sulph. in some lemonade. Under this treatment the pains and headache usually almost completely disappear in twenty-four hours. If, however, an annoying headache, coming and going, develops itself, it is usually aggravated by pushing quinine, but a little antipyrin combined with caffeine and phenacetin quickly relieves it. Antipyrin has been used in this fever in the same "rule of thumb" way as quinine. My friend Dr. Bertram, of

Johannesburg, summed it up rather neatly: "It certainly gives a very nice chart," he remarked, "and probably a funeral." The after-treatment consists in, when possible, the removal of the patient to a healthy district *after an attack has passed off* and the patient is convalescent. Nothing, in my opinion, is more hurtful than to hurry a patient probably a long and fatiguing journey, often part of the way by postcart, to the seacoast, and then and there pack him off on board ship for Europe. The chances are that he will have a fresh attack, and that much more severe than the original one. If this point had been borne in mind, probably a painful incident would not have occurred in the west coast some three years or so ago. If the patient has contracted the fever inland, he should be removed down to the coast by slow degrees. There he should remain quietly until he has got acclimatised to his greatly changed surroundings from a high dry altitude to a low moist one. Then, and not till then, should he adventure a trip "home." The diet should be good, plain, wholesome, nourishing, and easily capable of digestion; with tiffin and dinner, bitter beer or Burgundy, and a strictly regulated amount of good whisky or brandy may be allowed. The anæmia may be helped by means of quinine and iron. Arsenic often acts exceedingly well in these cases. Persistent insomnia is not infrequent, but usually gives way before a hot night bath followed by 30 grs. of sulphonal dissolved in hot whisky (or brandy) and water, repeated if necessary in an hour. It is rather important to pay strict attention to this insomnia, as its persistence often brings on suicidal feelings, especially in men troubled with business worries or the responsibility of a wife and family. I have found that two or three nights' good sleep, with the sulphonal and some encouragement from his medical attendant, soon put matters right. Irritability of the stomach, with retching and vomiting, may be checked by two minim doses of carbolic acid.

Pain over the hepatic region may be alleviated by equal parts of ung. hydrarg. and belladonna. The old fashioned blue pill and black draught at the same time are not to be despised. It should also be remembered that the pain—if it be constant and severe, and especially if it be accompanied with rise of temperature and, later, dry tongue and typhoid symptoms—may be occasioned by abscess, which must be dealt with on ordinary antiseptic surgical principles. Chronic enlargement of the spleen is said to be diminished by ung. potas. iodi. with saponis. My experience does not bear this out.

With regard to removal of the spleen, in the only case I have had, I found, on exposure, it was so firmly adherent all round that I had reluctantly to abandon the operation. In my student days I had rather a lesson on the difficulties of removing a partially adherent spleen in Mr. H. E. Clark's wards in the Royal Infirmary.

A not uncommon after-result of malaria is chronic rheumatic pains. They wander all over the body, and in one very obstinate case coming under my notice they chiefly affected the soles of the feet, the pain being not unlike that commonly associated with flatfoot. Topical applications are of little or no use. Removal from the district, a tonic form of treatment combined with potas. iodi. and sodæ sal., or perhaps better still, 3 grs. of quin. sal. in pill four times a day in conjunction with the warm baths near Pretoria, or Caledon in the Cape Colony, are perhaps most satisfactory.

The preventive treatment of fever in malarial districts consists in lots of out-door exercise (every one here either rides or drives unless in the larger towns); good, wholesome food; good water, a very rare commodity in the Transvaal; the use, but not abuse, of a moderate quantity of whisky or brandy; to be out as little as possible after dark in rainy season, and in the morning to wait until the sun has dispersed the mist arising from the damp ground; and, last, but not least, the thorough planting of the quickly growing blue gum tree, with drainage of all swamps. During the fever season a few grains of quinine dissolved in sherry may be taken during the week, with an occasional saline purge. If it does no good, it probably won't do much harm.

The above notes have been put together specially for the use of the senior student and newly qualified medical man who may at some future time leave the old country for "fresh fields and pastures new." An uncomplicated case, like what one meets with nine times out of ten, has been taken, the simple case being the fundamental basis of the complicated one. It may surprise the student to note that though I place very little reliance on quinine in first attacks, I should have given it practically all through. In malaria the patient understands that he *must* have it in order to get well, and thus you may be forced against your better judgment to prescribe it, as its taste is not to be disguised. In many cases similar to the above no quinine has been given, with the same result. In old chronic cases quinine is of undoubted advantage, but even then I find its potency much exaggerated, and in many cases not even so good as iron, arsenic, and strychnine.

These remarks are the practical outcome of several hundreds of cases during a three years' residence in South Africa, and not from a knowledge gleaned from text-books on the subject. My endeavour shall not have been in vain if in the future it prevent even one similar case being thrown into that cesspool of medical incompetency—influenza.

Obituary.

PROFESSOR JOSEPH COATS, M.D.

Professor Joseph Coats died on Tuesday, 24th January, 1899, at his residence, 8 University Gardens. He was appointed editor of the *Glasgow Medical Journal* on 28th November, 1877, at the time when it was changed from a quarterly to a monthly periodical. As he was still the senior editor at the time of his death, he had thus held office for the long period of twenty-one years; and it is, therefore, fitting that in these pages we should first of all refer to the great services he rendered to the *Journal*. Our readers have now to mourn the loss of the man who succeeded in placing the organ of the Glasgow School on a more secure footing than it had ever before occupied. He assumed the reins of office at a time of difficulty and stress, and, by his energy and literary skill, he succeeded in gaining for the *Journal* a most honourable place in the current medical literature of the day. Dr. Coats had a deep affection for, and a profound belief in the power for good of, the periodical for which he did so much. He did not believe that the articles appearing in its pages were buried, as many asserted, and the fact that for a long period of years a regular series of the *Journal* could be found in many of the great medical libraries of the country, was to him a guarantee that the Glasgow Medical School was thereby recognised as a great centre of medical education and activity. Not the least part of the great and useful work which Coats accomplished for the welfare of his school, was that which he did as editor of the *Glasgow Medical Journal*.

In presenting a short memoir of a man so eminent in his profession as Coats, a twofold method of treatment suggests itself. We may regard the subject of the sketch in his position of teacher and public man; and, secondly, we may look at him as he appeared to those who knew him in his family and more private relationships.

TEACHER AND PATHOLOGIST.

For more than quarter of a century, Joseph Coats held a prominent and distinguished position in the Glasgow Medical School. He graduated with honours at the University of Glasgow in 1867, and thereafter he was successively resident-assistant to Sir William T. Gairdner and to Lord Lister in the Glasgow Royal Infirmary.

After serving his term as resident in the Glasgow Royal Infirmary, Coats went to Leipsig, where, for a year, he engaged in experimental physiology in the laboratory of Professor Ludwig. On his return from Germany in 1869 he was appointed pathologist to the Glasgow Royal Infirmary, in succession to Dr. Samuel Johnston Moore, a post which he filled till the year 1875. During his tenure of office at the Royal, he laboured at morbid anatomy and histology, with unremitting zeal, as his report books, now preserved in the laboratory, abundantly testify. The museum, also, received his careful attention; and, besides adding many specimens to its shelves, he published in 1872 the first printed catalogue of the collection. Since then two other editions of the catalogue have been published; the second, in 1878, by the late Dr. Foulis; the third, in 1889, by Dr. David Newman. After his appointment to the Royal Infirmary he again went to Germany, and studied pathological anatomy under Rindfleisch at Würtzburg. In 1875 he was appointed pathologist to the Western Infirmary, and there he laboured until the end building up the Glasgow School of Pathology. He also acted for a full term as dispensary physician, and for a time had charge of an extra ward, which it was found necessary to open to meet the pressure on medical beds. For a few years, also, he devoted himself to the study of the diseases of the throat, but the pursuit of pathology was the serious business of his life. From the first he threw himself actively into the work of teaching, and with his appointment to the Western the opportunity for the full development of his powers in this direction came. From 1876 onwards he was an independent teacher. Before that he had lectured merely as one of the assistants to the Professor of the Institutes of Medicine. His class, which, till the opening of the new buildings in 1896, met in the Medical Lecture Room of the Western Infirmary, was one of the most popular in the medical curriculum. Coats was not a fluent or rhetorical speaker, and for the first few years he read his lectures; but after 1878, these were delivered without the aid of notes. His style as a speaker was sometimes a little monotonous, but the slowness and distinctness of his utterance enabled the students to take him down almost verbatim; and it was generally agreed, in the time of the present writer, twenty years ago, that Coats's notes on pathology read well. In 1877 he commenced the teaching of practical pathology to a class of about four students; in 1879, when the writer attended, there were about a dozen. The accommodation then available for practical teaching was of the most meagre description, but the pathologist made the best of it, and there was no class in those days more thoroughly enjoyed and appreciated than "Coats's practical." In addition to his teaching he laboured without ceasing at microscopic pathology, and his contributions to literature on this subject were many and valuable. He showed what could be done on limited means. His workroom for twenty years was a small den, perhaps 12 feet square, with a table at which he and his assistant were wont to work, and frequently to lunch when the work was particularly heavy during the summer session.

In 1882 he began the writing of his *Manual of Pathology*, the first edition of which appeared in 1883, and now the fourth is in course of preparation. From the first this book took rank as one of the standard works on pathology in the language, and its publication established the reputation of its author as one of the foremost pathologists of the day. His work upon "The Pathology of Phthisis Pulmonalis," published in 1888 in a volume entitled *Lectures to Practitioners*, in collaboration with Sir W. T. Gairdner, is also authoritative.

Until 1893 there was no Professor of Pathology in the University of Glasgow. The chair was founded by the University Commissioners in that year, and Coats, who for nearly twenty years had been professor in all but name, was unanimously called upon to fill it. There was a general feeling of satisfaction throughout the entire profession when the hard-working, self-denying pathologist received this reward of his labours. For many years the foundation of the chair had been talked of, and Coats must often have experienced that hope deferred which makes the heart sick, but no word of bitterness or complaint ever escaped him. In

1896 the new laboratories at the Western Infirmary were opened, and the professor could now regard his accommodation and apparatus for teaching as satisfactory. But just when his life's reward had come the first symptoms of the malady, destined to cut short his career, manifested themselves, and during the last three years his work was much interfered with by bodily suffering.

In addition to his University work, Coats was an active member of the medical societies of Glasgow, and he filled the offices of president of the Medico-Chirurgical (1891-92) and Pathological and Clinical Societies, two of the most important. Of the latter, indeed, he was one of the founders. In the social life of the University he always took a prominent part, and in the promotion of the Students' Union he was one of the most zealous workers. He was also an active member of the British Medical Association, and filled successively the offices of vice-president and president of their section of pathology.

It is difficult, indeed, so near to his life and work, to form an impartial estimate of his character as a teacher and a public man. Perhaps there were not a great many, even of his own students, who can be said to have known him intimately. There was a certain coldness of demeanour and a certain habit of looking one through and through which made the junior and the stranger perhaps just a little bit afraid of the tall, silent-looking man whose teaching and work they so much admired. But behind all this there was a kindness of heart, a single-mindedness of purpose, an innate inflexible sense of justice, and a passionate love for his work and his profession which united his intimates to him in the bonds of affection. The welfare and prosperity of his students were ever close to his heart, and if he was less given than most to the expression of his emotions, they were none the less real and sincere. One of his favourite authors was Thomas Carlyle, and we have often thought that both in cast of countenance and mode of thought Coats much resembled him. The sage himself could not have hated cant and quackery more, nor have had a greater love and esteem for all that was high and noble, just and powerful. As a pathologist, Coats made his mark rather as a morbid anatomist and histologist than as an experimenter. Indeed, as things were in Glasgow, it could hardly have been otherwise, and perhaps it is well that they were not. One thing Coats could impress upon his pupils, and that was the close relationship between clinical medicine and pathological anatomy and physiology. His long association with clinical work caused him to realise this in a sense that the mere laboratory worker could never hope to, and the clinical bearings and importance of his demonstrations were never forgotten—most important, surely, in a school where the great majority of the students are to become general practitioners of medicine. His example of continuous steady work had a most beneficial effect upon his pupils, all of whom regarded him with the respect which his upright and just character inspired; and those who were more closely associated with him in professional work looked upon him as the warmest of friends and the most generous of masters.

J. L. S.

FAMILY HISTORY AND EARLY DAYS.

Joseph Coats was born on 4th February, 1846, in Paisley, where his forebears had been settled for several generations, having come originally from the south of Scotland or from England. His great-grandfather was a Paisley weaver of the old school, whose son James was the founder of the world-famed thread firm of J. & P. Coats. This son James was, in his youth, a corporal in a cavalry regiment called the Ayrshire Fencibles, and when he got his discharge in London with, I daresay, not much more than the proverbial half-crown in his pocket, he walked all the way to Paisley. His father had not heard of his discharge, and when he entered his house his reception was not that of the prodigal son, for before the word of welcome, or the rejoicing, came the stern—"Are you here with honour, sir?" This stern sense of duty, of just dealing, was characteristic of the race, and came out strongly in the subject of our sketch. Hereditary traits were strikingly marked in him, as might be expected from the vitality and strongly marked individuality of his fathers. I think the simplicity of character which now and again showed itself in him, and came almost as a surprise to those who did not know him intimately, he owed to his grandfather, Jervis Coats (a brother of the James above referred to), who was the Nathaniel of the family. His father—who died a few years ago at the advanced age of 92, with memory and intelligence apparently unimpaired—was a well-known and esteemed citizen, and at one time a magistrate of the town, who concealed under a grave, stern exterior, a kindly heart, doing many charitable deeds, giving very liberally for his means, and doing it all so that very few but those concerned knew anything about it. He was a just, upright man, whose persistence, in any course which he considered right, was such as to remind one of the phrase—"It's dogged as does it."

He was a deeply religious man, in many things—such as Sabbatarianism—tolerant to a degree, seldom found in Scotland thirty or forty years ago in any Protestant denomination. The Storie Street Baptist Church, of which he was a member, as were most of his name at that time, had always been noted for its liberalism, with the result of an occasional split from its membership of the more strait-laced. If one wants to realise the atmosphere in which the strong, tenacious, and yet tolerant religious life of young Joseph Coats was formed, let him read the well-known and charming sketch called *The Pen Folk*—a book well worth reading for its own sake, and also as being a precursor of what has come to be known as "kailyard" literature, but having, what most of that lacks, the touch of genius, and as giving a picture of a peculiar and intense religious life which flourished and found a congenial soil amongst some of the more earnest-minded of the well-informed and Radical Paisley weavers. But while Storie Street Baptist Church—now by the way represented by the magnificent Thomas Coats Memorial Church—had nothing in common with the Calvinism and narrowness of the Pen folk, the men were still ecclesiastically the same. "When the century was in its teens, what a band they made of single-minded, energetic, knowledgable men." Their creed, though evangelical, which it still continues to be, was unwritten, and therefore permitted diversity of opinion on everything not regarded as fundamental. Thus it was that young Coats—who dare not miss going to church twice on Sunday—could, after church hours, walk in the country, or even read a novel, as he often did, without any sign of parental disapproval. With such heredity, and such surroundings, it is no wonder he grew up a grave, thoughtful, simple man, righteous in all his ways, and caring much more to do justly than to earn the applause of men. In his inner life he clung tenaciously to the theological opinions of his boyhood and early manhood; and, though he has been known, in the early days of his professional life, to preach from the pulpit of his old church, where neither apostolic succession nor any form of sacerdotalism was believed in, yet outside his family and church life, his religion was shown by deeds, rather than words, and he cared very much more for purity of life than purity of doctrine, and cared, too, more for the quality of his work—which, professionally and otherwise, was unceasing—than for the rewards which might come from it. No more striking testimony to the essential truthfulness of this description of the man could be furnished than the fact that, throughout the long years in which he so manfully fought the battle of pathology in Glasgow, against indifference, if not hostility, of a kind to sour most men, he did so without a word of censure or blame for any one, being content to know that pathology was taught, and well taught, and to wait for the recognition which was sure to come.

Coats entered the arts classes of Glasgow University at an early age. He was sent there, after leaving the John Neilson Institution, Paisley, to "finish" his education, without any regard to his future vocation. When, two years later, he elected to enter medicine, it was against the wishes of his father, who only yielded when he found that his son would not be moved from his purpose. He was a distinguished student of medicine, and we remember his losing a portion of his third session at college by a severe attack of typhus fever, which he contracted while visiting the Paisley Infirmary during his holidays. He was much respected by his fellows, and loved by a few who knew him intimately, and remained through life his fast friends. Amongst his set at college were many who, at home and abroad, attained to considerable eminence in their profession. Several, like himself, have done, and are doing, good work in connection with medical education in Glasgow.

In those days pathology, or rather pathological anatomy, was not properly or systematically taught in Glasgow. The pathologist to the Royal Infirmary was then a genial and very able general practitioner, ignorant of scientific pathology as we now know it, who was busy at the time building up the extensive practice which he afterwards attained to. He taught us very well how to make a *post-mortem*, and his occasional lectures or demonstrations were rather suggestive, and always interesting, though not, perhaps, always accurate from a medical point of view.

Our lot as to pathological teaching would have been a sad one, but that we had in our professor of medicine a good pathologist, who gave us abundantly of his rich stores, illustrated freely by morbid specimens and drawings. The over-lectured, much-crammed student of to-day, who is like to be swallowed up by many lean specialties, need not think we were badly off, for, with teachers like Allan Thomson, Gairdner, and Lister, not to speak of some other admirable teachers, we could do without a deal of what goes at present for medical education. We were not crammed, but taught to think, and inspired to work with enthusiasm. To Gairdner and Lister, in particular, Coats owed much of the inspiration which made him the devoted student of his profession which he remained almost to his last hour. He revelled, as most of us did, in the broad philosophic views of medicine and of medical history which we got from Gairdner, and which were supplemented by careful clinical teaching. I presume our old master still lectures as he did then, but I have often wondered if he ever lectures upon insanity, and under it upon the will, as he did then, and talks eloquently, like a professor of theology and psychology rolled into one; and we remember, after such a lecture, he was told next day, much to his delight, we think, by one of his students, afterwards, I think, a Congregational minister in one of our English manufacturing towns, that he had been guilty of some dreadful heresy, *sub-* or *supra- lapsarianisms*, I forget which at this time of day. With Syme's *Principles* for our text-book we were taught surgery, and we were grounded by the great surgeon in the foundations of that science which he has done so much to advance, so very fruitful in medicine as well as surgery, which has since then blossomed into bacteriology. How heartily many of us wished, as we listened to the lucid and fascinating story of inflammation or fermentation, and their relations to suppuration, as told by Lister, that he were our teacher of physiology as well as our teacher of surgery. How the memories of those old days, when life was young, come surging up, under the influence of the emotions of this sad day, when he, one of the best of us all, has left the stage on which he played his honest and good part so well. It was in this school that his medical education, just ended, was begun, and we have done but scant justice to the spirit and the fruitfulness of it.

Coats, whose analytical type of mind pointed him out as well-fitted to pursue the scientific side of his profession, was quick to see that, in the defective condition of pathological teaching in Glasgow, there was a good opening in a department which, from the rapidly advancing microscopic side, had great attractions for him. He therefore, after graduating with honours, proceeded to qualify himself by special studies in Leipsig and elsewhere. At Leipsig he worked for some time in the physiological laboratory of Ludwig, where he had as a fellow-worker his friend Dr. Lauder Brunton, of London. Before this he spent a short time as a temporary assistant at the Argyll and Bute Asylum under Dr. Sibbald, now the distinguished Senior Commissioner in Lunacy. His friend Dr. Sibbald, long afterwards, told us that when there he showed his characteristic enthusiasm for medical work, and worked much with the opthalmoscope. He was also about this time closely associated with Dr. J. B. Russell, then medical superintendent of the old Parliamentary Road Fever Hospital; and he very early in his professional career succeeded Dr. Russell as editor of this *Journal.*

Soon after his return from Germany, the office of pathologist to the Royal Infirmary became vacant, and Coats got his opportunity, and soon began to lecture systematically on the subject to which he continued to devote his life. It was characteristic of his striving after thoroughness that, after a year or two, dissatisfied with his knowledge of the more recent German advances in pathological anatomy, he obtained leave of absence, and spent some months studying under Rindfleisch, in Würtzburg. There were some who did not quite appreciate the result, as I remember, about twenty years ago, a young medical practitioner grumbling badly because he had to come through the ordeal of an examination in what he called "Joe Coats's German Pathology."

At the time he was not only the pioneer in pathological teaching, but for many years afterwards was the only teacher of the subject in Glasgow. His lectures were necessarily recognised by the University as qualifying for the degree, but it was not till some years afterwards, and after his transference to the Western Infirmary, that he secured the position of University lecturer, and after successfully conducting his classes in the pathological department of the Infirmary for one or two years, he lost his hard-won position of being an independent and decently-paid lecturer by the action of the then Professor of the Institutes of Medicine. This gentleman had been a very distinguished physiologist, and was in every way a most estimable man, but by this time his day was done. His chair embraced not only physiology, but several other subjects more or less cognate to it, of which pathology was one. He may have said something about pathology in his lectures, though we never heard of him lecturing on anything but physiology. This gentleman insisted that Coats could only lecture on pathology as his assistant, and claimed the fees of the class, a proportion of which, about a third, he returned to Coats as salary. He told us that the first time he paid over his hard-won fees, he was very coldly received with the words—"Much obliged, Dr. Coats, for conducting *my class* on pathology." I remember him telling me this without a trace of bitterness, but rather with a sense of the humour of the situation. I need scarcely say that with the appointment of the present popular and eminent incumbent of the chair of physiology this arrangement came to an end. And then came the waiting for many years before the professor *de facto* became the professor *de jure*. He reminded me, by his long patience and its fruits in peace of mind and good work, of the lines of a favourite book of his, *Aurora Leigh*—"He worked with patience, which means almost power." In this connection I would venture to quote the words of a friend, whom he always regarded with special reverence and affection. Sir William T. Gairdner, writing to me since his death, says of it, "I need not say that it is for me the severance of a very old and dear association, and everyone here will sympathise alike with the family of one who, after fighting the battle of pathology in Glasgow for years as an unrecognised or only partially recognised teacher, and doing it so manfully and well, is now cut off just when his means and opportunities had come to full fruition, and when all the world, both in Glasgow and out of it, had come to recognise in him one of the ablest members of the professoriate."

The limits of this already too lengthy communication prevent me from making almost any reference to the many social and religious schemes for which he worked with untiring zeal. A Students' Union, a Theological Hall, a Central African Mission, the writing of a book on his recent travels to and from Australia in search of health, were all done as though they were the only things he cared to do. To his schemes and charities he gave not merely work and sympathy, but liberally of his means.

In reference to this appetite for work, after his appointment as one of the Crown medico-legal examiners, I asked him why he burthened himself with such an appointment, and found that he did it for the sake of the principle which he contended for, that such work should be done by a pathologist.

To those of us who mourn him to-day as a relative or intimate friend, we mourn him not for the good work cut short, however important that may be, but for the loss of the warm heart and the pure soul we learned to love better than we could have thought possible till our eyes were opened by the greatness of our loss.

D. F.

The malady from which Professor Coats suffered, and which finally caused his death, was, we understand, a malignant tumour of the splenic flexure of the colon. For a lengthened period the symptoms were of an obscure and puzzling character.

They first manifested themselves about three years ago, and took the form chiefly of repeated febrile attacks, closely resembling those of malaria. Indeed, he himself at first thought that the disease might be malaria, which, he thought, he might possibly have contracted during a visit to Rome. About two years ago a tumour was discovered in the left side of the abdomen, whose nature, however, long remained obscure. During his voyage to Australia the feverish attacks recurred several times, and in Egypt, on his way home, he suffered very severely from an attack of dysentery. During the later months of 1898, after he had suffered from one or two attacks of intestinal obstruction, the true nature of his disease became apparent. From this time he rapidly sank, and, in spite of all that medicine and surgery could do, he succumbed on the morning of 24th January, 1899.

CURRENT TOPICS.

Glasgow and West of Scotland Medical Association ("Glasgow Medical Journal").—The Annual Meeting of the Association was held on Friday, 20th January, 1899, in the Faculty Hall—Dr. Alexander Miller, of Crosshill, in the chair. The Treasurer's Annual Report showed a good balance, and the reserve fund at the credit of the Association was considerably increased. The Editors reported that the *Journal* had appeared regularly, and recommended that all contributions should be in the Editors' hands on the 15th of the month previous to publication. The necessity of keeping up the membership of the Association was also referred to, and members were urged to do their best to obtain new subscribers. The following office-bearers for 1899 were then elected:—

President, ...	Dr. William James Fleming.
Vice-Presidents, ...	Dr. W. R. Sewell, Helensburgh. Mr. H. E. Clark.
Editors, ...	Prof. Joseph Coats. Dr. John Lindsay Steven.
Treasurer, ...	Dr. T. K. Monro, 10 Clairmont Gardens.
Secretary, ...	Dr. John Lindsay Steven, 16 Woodside Place.

General Business Committee.

Dr. Barclay Ness.	Dr. Wm. R. Jack.
Dr. Kennedy, Bearsden.	Dr. T. W. Jenkins.
Dr. W. K. Hunter.	Dr. R. S. Penman, Paisley.
Dr. Robert Pollok.	Dr. Alec Ferguson.

Dr. E. L. Marsh supplies us with the following Official Summary of plague cases and deaths in the Bombay Presidency from September, 1896, to 6th January, 1899:—

	Cases.	Deaths.
From September, 1896, to week ending 28th May, 1897,	35,434	28,737
From week ending 4th June, 1897, to week ending 27th May, 1898,	75,813	61,220
From week ending 3rd June, 1898, to week ending 23rd December, 1898,	95,184	73,084
Total for week ending 30th December, 1898,	2,636	2,106
Total for week ending 6th January, 1899,	2,537	2,048
Totals,	211,604	167,195

Craig Colony Prize for Original Research in Epilepsy.—The President of the Board of Managers of Craig Colony offers a prize of $100 for the best contribution to the pathology and treatment of epilepsy, originality being the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the Board of Managers of Craig Colony, 10th October, 1899. Each essay must be accompanied by a sealed envelope containing the name and address of the author, and bearing on the outside the motto or device which is inscribed upon the essay. The successful essay becomes the property of the Craig Colony, for publication in its Annual Medical Report. Manuscripts should be sent to Dr. Frederick Peterson, 4 West Fiftieth Street, New York City, on or before 1st September, 1899.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Session 1898-99.

Meeting IV.—18th November, 1898.

The President, Dr. G. S. Middleton, *in the Chair.*

I.—CASE OF CARCINOMA OF THE TONSIL.

By Dr. J. G. Connal.

Dr. J. G. Connal showed a case of carcinoma of the tonsil, portions of which were removed on four occasions for the purpose of facilitating the act of swallowing. There was no pain complained of.

Dr. Walker Downie said that the case was of interest, as adding to the number of cases of primary cancer of the tonsil on record. When he had shown a similar case eight years ago, it was maintained by others that cancer of the tonsil was always secondary to cancer of the tongue. Cases which had been placed on record since then, however, showed that this was not so.

Mr. H. E. Clark said that such cases were not inoperable in the early stages, and that even in the later stages operation might relieve the pain and dysphagia for some time. Even in this case, although there was great glandular enlargement, the mass was free; but, on the whole, an operation was inadvisable.

II.—A CASE ILLUSTRATIVE OF THE EARLY OCCURRENCE OF EYE SYMPTOMS IN EXOPHTHALMIC GOITRE, WITH REMARKS.

By Dr. James Hinshelwood.

Dr. Hinshelwood's paper appears as an original article at p. 84.

Dr. Alex. Robertson said that the nomenclature of this disease should be altered, as it was Parry, of Bath, who had just directed directed attention to it. It might, therefore, be called Parry's disease. It was well-known to begin in different situations, and at one time hyperthyroidism had been thought to be its cause. The speaker had along been inclined to regard the medulla as the seat of the disease, and asked whether a lesion in that situation might not be regarded as the cause of the increased growth of the thyroid gland. He had for some years treated it by passing an electric current through the medulla from behind forward, through the nose and cervical spine, and he had thought the treatment of use. As the disease might be cured spontaneously, one should form a guarded judgment as to the effects of treatment.

Dr. W. K. Hunter thought the the symptoms pointed to a lesion of the sympathetic nerve, and that the results of the French operation (resection of the nerve) were in favour of this conclusion. Resection of part of the thyroid gland was very dangerous, possibly owing to the sudden escape of thyroidin into the circulation.

Dr. J. C. Renton said that the reasons for the origin of the disease were various. Shock was frequently a factor in the etiology. He had noted improvement in some cases under the administration of thymus gland.

Dr. Napier mentioned a case in which thymus gland had proved useless in his hands.

Dr. Middleton said that no one view as yet accounted for all the cases. It was difficult to accept Sir W. Stokes' attempt to classify them according to their mode of origin, as they often could not be separated in that way. It was also difficult to be positive as to the result of treatment, as some of the cases might recover or relapse spontaneously.

Dr. Hinshelwood, in reply, said that, according to Stokes, cases beginning with enlargement of the thyroid gland were suitable for operation, while those beginning with exophthlamos were not. Such cases were often first seen at eye infirmaries. With regard to treatment, he did not wish to claim too much for any particular drug.

III.—THE RELIEF OF PAIN IN THE BACK NOT DUE TO ORGANIC DISEASE.

By Dr. W. F. Somerville.

Dr. W. F. Somerville read a short paper on the relief of pain in the back not due to organic disease. He laid stress upon the value of regulated movements.

Dr. Napier considered that the pain in these cases was often the result of muscular fatigue, and was often relieved by the measures which had been mentioned.

Dr. J. C. Renton said that many such cases were due to adhesive conditions existing in the muscles, which might be entirely relieved by systematic exercises. Mechanical treatment ought not to be neglected.

Dr. Alex. Robertson hinted that the improvement might, to a certain extent, if not entirely, be the result of suggestion.

IV.—A FURTHER CONTRIBUTION TO THE STUDY OF WORD-BLINDNESS.

By Dr. James Hinshelwood.

Dr. Hinshelwood's paper will be found *in extenso* in the *Lancet* for 14th January, 1899.

Dr. Alex. Robertson said that two distinct groups of symptoms must be recognised—letter-blindness and word-blindness. Their localisation was merely a further differentiation of the old localisation theory. We still knew too little to speak without a certain degree of reserve upon such a point.

Dr. Ernest Thomson asked if the patients could read words consisting of one letter only.

Dr. Love mentioned that there had been a great improvement in the agraphia of one of the patients referred to. He agreed that cases of letter-blindness were not so rare as was supposed. He was inclined to adopt the view of the subdivision of the centres. This subdivision was not confined to the auditory and visual centres, as Baginsky had observed the converse of the condition known as astasia-abasia, elementary movements having been lost, while the more complex movements were preserved.

Dr. Middleton agreed with Dr. Robertson that it was inadvisable to be too dogmatic. The majority of the cases were not clearly defined, and it was difficult to suppose, in the case of foreign languages, that each was assigned a little compartment to itself. So far, there had been very few *post-mortem* examinations bearing upon the point.

Dr. Hinshelwood replied that clinical observation came before pathology. His dogmatism was not that of ignorance, but the result of careful study. His views were theoretical, but had been arrived at by induction from clinical observation.

MEETING V.—2ND DECEMBER, 1898.

The President, DR. G. S. MIDDLETON, *in the Chair.*

I.—ENDEMIC GOITRE IN LANARKSHIRE, WITH OBSERVATIONS ON THE PATHOLOGY OF THE DISEASE.

BY DR. DAN. M'KENZIE.

Dr. M'Kenzie's paper appeared as an original article in our issue for January, 1899, at p. 15.

Dr. J. Lindsay Steven said he was interested in the account of a goitre endemic so near Glasgow. He thought Dr. M'Kenzie had been wise in differentiating the symptoms due to pressure of the gland from those which might be the result of constitutional disturbance.

Dr. Charles Workman thought Dr. M'Kenzie had material in this subject for many years of work. He wondered why, if a goitre endemic existed so near Glasgow, they did not see cases of goitre oftener in the wards of the infirmaries.

Dr. Alex. Robertson said that in his opinion the older views of goitre being due to some chemical change in the water, &c., must be given up, and that the *contagium vivum* theory held the field alone.

Mr. H. E. Clark considered that the *contagium vivum* idea was in nowise proved, and that it was simply a theory of these times when everything is put down to the action of a germ. Dealing with the geology of goitre, he said he was disappointed that Dr. M'Kenzie had not told them the geological features of those parts of Lanarkshire where he had found the endemic.

Dr. R. M. Buchanan criticised Dr. M'Kenzie's account of the symptoms. He asked if examinations of the pulse-rate, continued over a lengthened period, did not show an increase in the rapidity of the pulse, and whether Dr. M'Kenzie had not observed some degree of mental lassitude or lethargy in goitrous patients.

Dr. M'Kenzie, in reply, said that he had not observed any undue rapidity of pulse-rate in goitrous people, but had not devoted special attention to this point. He had already alluded to irregularity of pulse, a not uncommon feature. As a rule, he found goitrous women quite as active intellectually as their neighbours. The geology of goitre was in his opinion not yet clear. Larkhall was situated upon the southern rim of the great coal basin of Central Scotland. The thicker coal seams give out just north of the village, and the transition to carboniferous limestone occurs about 1 to 2 miles to the south. In addition to the coal beds, red and grey sandstones, shales, and fireclays are found. Intrusive basalt is met with here and there. He thought that the *contagium vivum* theory was proved, and alluded to the many points held in common by goitre and malaria.

II.—MICROSCOPIC SPECIMENS, ETC.

BY DR. DAN. M'KENZIE.

Dr. M'Kenzie also showed microscopic specimens of (1) normal adult thyroid, (2) fœtal thyroid, (3) goitrous thyroid, showing newly-formed follicles, (4) cystic dilatation of follicles in goitre, (5) compressed and distorted follicles from hyperplasia of connective tissue, (6) follicular cells in goitre crowding over colloid material. He also showed photographs of goitrous patients, and of (1) an enlarged thyroid of endemic goitre (*post-mortem*); (2) contorted and compressed trachea from same case.

III.—PROFUSE HÆMATEMESIS DUE TO "PORE-LIKE" EROSION OF THE GASTRIC ARTERIES—NO ROUND ULCER—EXULCERATIO SIMPLEX OF DIEULAFOY.

BY DR. J. LINDSAY STEVEN.

Dr. J. Lindsay Steven's paper appeared as an original article in our issue for January, 1899, p. 5.

Mr. H. E. Clark said that the cases were of great interest from the operative point of view, but increased the difficulties of the subject. The lesson to be derived from them was that if no ulcer were found after opening the stomach, the operator should explore along the line of the main arteries. This, however, would be a matter of extreme difficulty, considering how difficult it was to see the erosion at the autopsy. The artery lay in the stomach wall, and the peritoneum, &c., would have to be cut through. Dr. Steven had described and defined the site of a new form of hæmorrhage.

Dr. Workman had recently seen appearances precisely similar to those which Dr. Lindsay Steven had described in quoting from Dr. Murchison. He thought them a very early stage of gastric ulcer. There had probably been at one time a superficial ulcer, leaving the wall of the artery bare and weakened. The condition, he thought, was analogous to that of aneurysm of the branches of the pulmonary artery.

Dr. Alex. Robertson was surprised that Dr. Steven had referred to the condition as extremely rare. He had read of cases which were characterised by an extreme paucity of symptoms.

Dr. W. G. Dun asked how Dr. Steven carried out the procedure of subcutaneous injection of normal saline solution.

Dr. Adamson inquired as to the etiology of the condition. An ordinary gastric ulcer must begin somewhere. It was quite possible that it might begin over a vessel, and that the "pore-like" erosion might therefore correspond with a very early stage of gastric ulcer.

Dr. Middleton was under the impression that such cases were very rare.

Dr. J. Lindsay Steven replied to Dr. Dun that his method was to use a hollow needle attached to indiarubber tubing, to the other end of which a funnel was affixed. After the skin had been washed, the saline solution (1 drachm of salt in 1 pint of water), at a temperature comfortable to the hand, was introduced. He had practised the injection in the arm, but it was better done in the thigh, where there was more subcutaneous tissue. The immediate result was to improve the patient's pulse. He thought Dr. Adamson's suggestion very feasible.

IV. — MULTIPLE TUBERCULAR TUMOURS OF THE BRAIN — ENLARGEMENT OF THE RIGHT CRUS CEREBRI — GREAT ATROPHY OF THE RIGHT THIRD NERVE.

By Dr. J. Lindsay Steven.

J. A., æt. 7, schoolboy, was admitted to Ward 7 of the Glasgow Royal Infirmary on 20th July, 1898, complaining of drooping of right eyelid and weakness of left arm and leg. He was a puny, delicate boy, illegitimate; his mother being a little unhealthy-looking woman. Two years ago he suffered from measles.

The drooping of the right eyelid was first noticed four months before admission, after he had been struck on the eye by a piece of coal thrown at him by a playmate. Three weeks before admission the left arm became weak, and eight days later dragging of left leg was first noticed.

At the time of admission, there was almost complete ptosis on the right side; dilatation of right pupil; inability to move the eye towards the middle line; a peculiar high-stepping action of the left leg and foot in walking, and a spasm of the left arm and hand rather suggestive of athetosis. It was noticed that he never attempted to use the left hand, and had a habit of keeping it hidden under the bedclothes. With right hand the dynamometer registers 13 kilos.; with the left, 10 kilos.

The peculiarity in walking is probably due to drooping of the left foot.

On more careful examination of the eye, it became clear that the whole right third nerve was paralysed, the only movements performed being those of the external rectus and superior oblique. The right pupil, though distinctly dilated, still contracted to light stimulus. No facial and no hypoglossal paralysis.

Over left hip there were two very evident patches of scrofuloderma verrucosa.

Heart and lungs normal, and no enlargement of liver or spleen can be made out.

A diagnosis of multiple tubercular tumours of the brain, with involvement of the right third nerve, was made, and the progress of the case during residence lent support to this view. Progressive emaciation set in; sickness and vomiting became frequent after he had been six weeks in the ward, and about the same time paralysis of the left side of the face was observed. Distinct atrophy of the left arm took place, and the tendon reflexes both in the left arm and leg became exaggerated.

In the month of October, slight clonic convulsions in the right arm and leg, and tonic general convulsions supervened.

He died comatose on 27th October, 1898. The temperature, which had been practically normal during the whole residence, rose a few points a day or two before death.

At *post-mortem*, in addition to general miliary tuberculosis, numerous caseating tubercular tumours of the brain were discovered—the smallest the size of a hazel-nut. One was situated in the right side of the pons; a second in the right lobe, and a third in the left lobe of the cerebellum. A fourth nodule was found in the substance of the right crus cerebri; it had caused great enlargement of this structure. The right third nerve, evidently from the pressure exerted on it by the enlarged crus cerebri, was much diminished in size, being not more than one-third of the thickness of the nerve on the other side. All these tumours are well shown in the specimen exhibited.

V.—A CASE OF CIRRHOSIS OF THE LIVER IN A CHILD SIX YEARS OLD.

By Dr. Hunter and Dr. Workman.

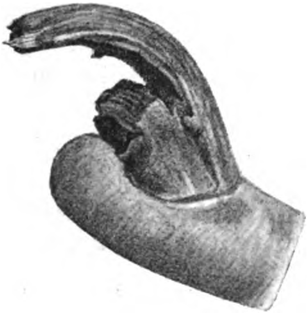
Dr. Hunter and Dr. Workman's paper appears as an original article at p. 81.

VI.—HYPERTROPHY OF FINGER-NAIL.

By Dr. Edington.

The specimen represents the terminal phalanx and nail of the left ring finger.

A longitudinal fissure divides the nail into radial and ulnar portions, the former being rather more than half the breadth of the nail. There is very considerable transverse arching of the nail, so that the ulnar portion looks directly towards the minimus finger; the radial portion occupies a dorsal and partly radial position.



The radial portion passes forwards and upwards from the bed, and then arches downwards, projecting 1·5 cm. beyond tip, and 1·25 cm. above the end of the finger. This portion of the nail is nearly ·6 cm. thick, and at its free extremity measures transversely nearly ·9 cm. Viewed dorsally, it appears narrower nearer the finger, but this appearance is due to the transverse arching mentioned above.

The ulnar portion is at first flat, and lies in the vertical plane. Running along for 1·25 cm. its surface is somewhat broken, and in the remainder of its course it turns transversely outwards beneath the radial portion. This transverse part is curved round the soft tissues below the nail, and does not project beyond the distal extremity of the digit. It is more ridged than the proximal part of the nail. Viewed from the radial side, the free extremity of the ulnar portion is seen between the soft tissues of the bed and the under surface of the radial portion, and between it and the proximal part of the radial portion is a bud of granulations.

The specimen is from a case of Dr. Hector Cameron's, in which many years ago the matrix was injured. As a result, hypertrophy of the nail, accompanied by ulceration, ensued. Avulsion of the nail was performed about three years ago, but was succeeded by equally faulty nail-formation. On account of the inconvenience caused to the patient by the condition, the terminal phalanx was amputated by Dr. Cameron.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1898-99.

MEETING III.—12TH DECEMBER, 1898.

DR. KNOX *in the Chair.*

I.—LUPUS OF THIRTY-TWO YEARS' STANDING TREATED BY TUBERCULIN, CURETTING, AND CAUTERY.

BY DR. ALEX. NAPIER.

The patient, Mrs. M., æt. 44, first suffered from the disease in her twelfth year, when it appeared at the right angle of mouth. Other nodules appeared from time to time, till the entire right side of face and neck was involved with the right side of forehead and right ear. Treatment was begun on 28th January, 1896, when Koch's tuberculin (the "old" tuberculin), one-tenth of a milligramme, was injected subcutaneously; the dose was steadily increased to 2 centigrammes, when the temperature rose to 102° F., with slight local reaction; dose reduced to 2 milligrammes, with no reaction; increased again to 2 centigrammes, when remarkably severe reaction followed—rise of temperature to 105° F., headache, severe pains throughout trunk and limbs, and rapid and feeble heart's action, accompanied by violent local inflammation and complete sloughing-out of all the lupus nodules, leaving the parts as clean as if the diseased portions had been gouged out with a gouge. Rapid cicatrisation followed. Some weeks later recurrence took place in a few small patches, which were thoroughly curetted and afterwards treated with the thermo-cautery. Since above date patient has been in hospital three times, suffering from limited and well-defined recurrence of the disease in the form of a few nodules in right cheek. These nodules were curetted and cauterised. Patient has now been free from any sign of relapse for about five months. The scars left on face are remarkably soft and silky in texture, and show no sign of contraction, save at one point on the right cheek; the cicatrices on lips and chin show absolutely no trace of contraction.

Dr. Napier directed attention chiefly to two points in this case: the remarkably soft and non-contractile cicatrices, and the treatment. As regards the latter, he emphasised the importance, not only of thorough curetting, but also of thorough and deep cauterisation with the thermo-cautery. He expressed the opinion that pain is greatly lessened, and that better and softer cicatrices are obtained, after deep and prolonged use of the cautery.

II.—INTUSSUSCEPTION IN THE INFANT—TWO CASES TREATED BY OPERATION.

By Dr. H. Rutherfurd.

1. Charles S., aged 8 months, was admitted to Ward III of the Royal Hospital for Sick Children on 6th August, 1898, at 12·15 A.M.

In the absence of Dr. Dalziel, Dr. Rutherfurd saw the case. Symptoms were of about thirty hours' standing. On 4th August, the bowels had moved as usual; but, in the evening, patient cried a good deal, and seemed to have pain. About 2 A.M. on the 5th, he was sick, and has continued to vomit since. At 10 A.M. blood began to be passed *per anum*. This was at first mixed with mucus, but latterly was almost pure and bright red. Quantity at a time, about half a drachm.

The doctor who saw the child at home gave an enema about 10 P.M. This was not retained.

On admission (12·15 A.M.) the child was found well-nourished and healthy-looking; face somewhat pinched. He lies quietly, and does not cry much. Abdomen not tense, nor is it unduly distended. An elongated tumour is palpable to the left of the middle line. *Per rectum*, the apex of this intussusception is felt about an inch and a half from the anus. Pulse, 140; regular, and of fair tension.

At 1 o'clock A.M. Dr. Rutherfurd opened the abdomen in the middle line. An intussusception was found with its neck near the hepatic flexure, and its apex reaching down into the pelvis. The small intestine was in a condition of complete collapse throughout almost its entire length, only the coil immediately above the intussusception being distended.

By manipulation, gentle kneading of the intussusception and squeezing of it out of the receiving layer from below, reduction was effected. There was practically no gluing of the surfaces, but some cracking of peritoneal surface took place as the œdematous and ecchymosed intussusception passed through the unfolding neck formed by the receiving and returning layer.

The apex of the intussusception appeared to be formed by the ileo-cæcal valve. There was a long appendix (6·5 cm. = 2¾ inches. There was a high reflexion of peritoneum at the back of the cæcum, which could be moved about with great freedom and manipulated outside the abdomen.

The child stood the operation well. Temperature at 6 P.M., 101·2°. Bowels moved after an enema. Slept at intervals, and took nourishment. During the evening temperature went steadily up, and the respirations became very frequent. At 10 P.M. temperature was 107°. At 3 A.M. on 7th it was 109°; and at 3·45 A.M. the child died.

2. Robert S., aged 6 months (patient shown), admitted to Ward III of the Royal Hospital for Sick Children, 20th October, 1898. In the absence of Mr. Parry, he was seen by Dr. Rutherfurd about 5 P.M.

On the previous day, the child was said to have been very restless. About 1 P.M. on the day of admission, began to cry as if with abdominal pain, and shortly after that passed blood *per anum*.

On admission, the child was very restless, turning his head from side, kicking about his legs, but not crying at all; bringing up occasional mouthfuls of milk, and passing mucus and blood *per anum.* Face pale and dusky, eyes sunken; pulse, 130, of good strength. Abdomen neither distended nor hard. An elongated mass was felt in the left side of abdomen, near the middle line. This seemed to extend upwards and across in the region of the transverse colon.

At 5·30 P.M. the abdomen was opened on the middle line, and a large intussusception found, extending down into the pelvis, and with its neck near the hepatic flexure. In this case, too, there was very complete collapse or contraction of the small intestine. Reduction was effected without much difficulty—there was no cracking or tearing of the peritoneum, though the intussusception was much ecchymosed—and almost entirely by pressure and the kneading of the tumour, with little or no dragging on the entering small bowel. Here, too, the ileo-cæcal valve seemed to form the apex of the intussusception. There was a long appendix, and a freely movable cæcum.

Patient was put back to bed apparently in good condition with a pulse of about 140, though the face had got very pale in the course of the operation, which was done under full chloroform anæsthesia.

In the evening the temperature rose to 103·2°, the pulse was 148, and respirations about 50. After two hours patient began to be fed with teaspoonfuls of peptonised milk.

The following day, 21st October, the child seemed to be doing well, and was crying for food. There having been no movement of bowels, an enema was given with the desired result.

The temperature gradually fell, but did not become normal for nearly a week (27th October).

On 1st November the superficial stitches were removed. On taking off the strip of collodion gauze, with which the wound had been sealed, some minute pustules were seen about the stitches. These, it was thought, might be due to the vaccination, which had been performed two days before admission, and whose pustules developed while the abdominal wound was healing. It seemed reasonable to suppose that the course of the temperature might be related rather to the vaccinia than to the abdominal condition.

With the three cases reported to the Society in November, 1897 (*Glasgow Medical Journal*, February, 1898), these cases make up a series of five which have come under my personal observation, and on which I have operated. The first and the last cases were the only successful ones. The first, unfortunately, died a little over a fortnight later at Belvidere, where he had been sent on account of chicken-pox. His recovery from the intussusception had been quite unequivocal. The scar was sound; there had been an afebrile course, and the child had thriven. In the two next cases it was found impossible to reduce the intussusception, and resection was done. In both of these cases death followed within twelve hours, with a high temperature. In the fourth case reduction was effected, but it ran a course very like the resected ones, though not so rapid, the presumption being that here, too, there was peritoneal absorption from the injured bowel.

The last case is interesting, in the fact that it was complicated by vaccinia. Whatever the origin of the pustules which were found at the first dressing, they had not in any way interfered with the healing of the wound.

In the last four cases I have opened the abdomen at once without trying injection or inflation of the bowel, and this without any consideration of the duration of the symptoms, and I have no reason to regret having saved the patients from the additional risks and fatigue of this most uncertain procedure. In the first case in which resection was found necessary, the symptoms were only of fourteen hours' standing. In none of the cases was operation shock present to any extent, or, if present, while they were on the table, the children—even in the fatal cases—rapidly recovering from it, sucking and crying vigorously; those which died, dying apparently of toxæmia.

I desire to call attention to the contracted condition of the small intestine noted in the two last cases, which is of interest in that, apart from the diagnosis of intussusception, it would suggest a condition of "collapse," so called, such as is found typically below the seat of obstructions, and which would naturally lead the surgeon to look above the contracted portion for the seat of obstructions. Probably this is the typical condition in the early stage of all acute obstructions before intestinal paralysis and distension has come on. Had this extreme contraction been due to the presence of any irritant, and been itself the cause of the intussuception, it might have been expected to show itself in a preliminary diarrhœa.

In reference to the manipulations necessary to effect reduction, I have only to repeat, what I said before as to the futility and risk of attempting this by dragging on the entering bowel, and the need for gentle squeezing and kneading to reduce the bulk of the intussusception and the œdematous folds at the reflexion of the receiving layer.

Mr. Clark said that the especial difficulties in the operative treatment of this condition were the age of the patient, the subsequent shock, and the thinness of the bowel-wall itself. If ordinary methods failed, manipulation externally, under an anæsthetic, might be first tried. These cases and others encourage operative interference, and that as early as possible. The longer the delay, the greater the œdema and the likelihood of adhesion.

Dr. M'Phail said that in general practice, and particularly in a district like his, such cases presented difficulties, and one of these was to know when ordinary methods had been tried long enough. The cases were so varied. He remembered the case of a boy, aged 4, who had symptoms of intussusception for three days, and where the apex of the intussusception could be felt *per rectum*. He urged the parents to have the child removed to an hospital at once. They were very unwilling, however, and again he tried to reduce it, and failed. They then took the child to the infirmary, but on arrival no intussusception could be found, and nothing was done; possibly the previous manipulation had caused its return. He would like to know what were the signs pointing to operative interference; he was aware some surgeons would operate in every case.

Dr. Knox thought that Dr. Rutherfurd's communication pointed to the fact that practitioners should not temporise at all. If a laparotomy was to be successful, it must be done early, before adhesions had taken place. If adhesions had taken place, he would leave it, and the outlook was not so hopeless. He was struck by the results mentioned in a paper by Thomas, of Liverpool. He would not advocate section if the acute symptoms had lasted over twenty-four hours.

Dr. Rutherfurd, in reply, demurred at the statement of shock in the young child. In none of his cases could he attribute failure to nervous shock. There was not the same depression as in the adult. External manipulation, as suggested by Mr. Clark, would not have been sufficient to effect reduction in any of the cases. In none was the tumour confined to the side. If there was a long tumour extending right down into the cavity of the pelvis, there was little good to be derived from injections; at least he would not push them.

III.—PATIENT WEARING A SIMPLE FORM OF SUPRAPUBIC DRAIN.

BY DR. H. RUTHERFURD.

The apparatus consisted of a soft-rubber catheter, introduced through the cannula of a trocar and fixed to the skin, which was kept shaved and dry, by a strip of gauze and collodion. The other end of the catheter was attached to a urinal slung along the inside of the thigh.

Patient is a man of 68, in whom atony of the bladder had followed the operative treatment of hydrocele (possibly from accidental over-distension while confined to bed). He had worn it for nine months with comfort.

Other cases were narrated in which the same apparatus had been of service in enabling patients to get about with comparative comfort, and more especially to rest at night, notably a case of advanced tubercular cystitis and a case of inoperable carcinoma of the bladder, in the latter of which the drain was introduced into the exploratory wound, the edges of the bladder wound being secured to the skin and brought together round the catheter.

Mr. Clark said he was satisfied with its usefulness, both as a temporary and permanent drain. The catheter acts as a complete block, and its method of fixation was exceedingly simple. He had used it in a case of fractured spine, and with much benefit in a case of tubercular disease of the bladder.

IV.—CARCINOMA OF THE ORBIT.

BY DR. T. SPENCE MEIGHAN.

Tumours of the orbit are, comparatively speaking, of rare occurrence, and have in common one very important symptom —namely, exophthalmos. The protrusion of the eye may continue a long while without injury to the eyeball. Frequently, however, the organ suffers from the insufficiency of the natural protections or the tension and compression of the vessels and nerves.

The amount of pain caused by tumours of the orbit varies considerably, and it can be said that malignant growths are on the whole more painful than simple tumours, but not so markedly so as to render the degree of pain a point of much diagnostic importance. Vision often remains good until a very late period; ultimately optic neuritis, or optic atrophy, induces blindness.

The upper lid (as in the present case), becoming enlarged, protects the cornea from exposure, and consequent ulceration, until at last the excessive proptosis no longer admits of this, and the cornea sloughs. This latter stage was in process of being developed in the present case.

The patient came to the Eye Infirmary for the purpose of having the eyeball only removed on account of its excessive protrusion and pain. At the operation, I removed a small piece of the tumour to ascertain its structure. The tumour was of long duration, fixed and firm. The microscopic sections show the growth to have a fibrous basis and epithelial cell elements, which constitute the chief parts of the tumour. The latter were probably derived from the glandular tissues of the conjunctiva. The history of the tumour points to a fibrous growth in the first instance, and in its later development carcinomatous. History of the case:—

M. M'G., aged 57, widow, husband died a few months ago, no children, has always been quite healthy, and is the only child of her parents, who died when she was an infant. Has no relations subject to growths of any kind. She breathes freely through the nose, and has not suffered from any affection of that region, and her hearing is quite good. The swelling in her left orbital cavity began eighteen years ago, and gave her very little trouble for at least five years. At this time she was advised to undergo an operation for its removal, but declined.

Examination.—The left eye was found to be quite displaced out of its orbital cavity, and was lying on the lower lid. The upper lid had become considerably enlarged, and partly covered the ball. The displacement was forwards and downwards, and was so great that on spasm of the lids the eyeball was pressed out from between them, and gave her pain. The cornea was clear, and the pupil did not respond to light. No perception of light.

By the ophthalmoscope the optic nerve was found atrophied. On palpation a solid tumour was found filling the whole of the orbital cavity. It was fixed to the walls, and its surface was irregularly nodulated. She suffered some pain in the growth, but she complained more of the pain from the displacement of the eye, and was anxious to have it removed, but preferred that the growth should be let alone. The eye was removed three weeks since, and she now feels much better. The right eye is normal, and with a suitable glass she can read No. 1 Jaeger.

The following is Dr. Leslie Buchanan's pathological report of the tumour:—

Microscopic examination of a piece of tumour excised from the orbit in the case of M. M'G.—The piece of tissue examined proves to consist largely of fibrous tissue, which in places assumes so great a density as to justify the use of the name fibro-cartilage. The cells in this tissue are very small, and have long delicate filiform processes. In many parts this fibro-cartilage has a rough granular consistence, which is opaque, and suggests calcification, but is not gritty. The principal cellular constituent of the growth is, however, composed of epithelial cells arranged in a quasi-glandular manner. These gland-like structures are moderately abundant and of moderate size, and are in some instances freely vascular—in others, partly degenerated.

The various appearances of the tissue would be accounted for best by a very slow-growing scirrhous carcinoma, originating in the lachrymal gland, it is possible; but it is also possible that similar appearances might be present in a case where a fibrous tumour of the orbit had become quiescent, and a later growth of glandular origin had taken place in it.

The structure is not that which one would expect to see as a result of the involvement of the lachrymal gland in a chronic benign growth.

V.—BUPHTHALMOS.

By Dr. T. Spence Meighan.

The clinical features of this disease of the eye have been well described and figured by the earlier writers, but little differentiation was made of its varieties. Some were congenital, others secondary to inflammation of the eyeball or to injuries; while the causation and pathology were admitted to be obscure. The appearance produced is very striking, and is the result of increased intra-ocular tension in a young eye, the cornea and sclerotic of which are thin and expansive, whereas in later life they are tough and resistant. The cornea is considerably enlarged, and its curvature is altered to a more globular shape than normal. Sometimes opacities are seen in the cornea, the result of previous inflammation. The sclerotic is usually much thinner, thus allowing the pigmented tissue of the ciliary body to show through, and gives it a dull bluish appearance. The anterior chamber is generally deep; rarely is it found shallow.

The iris, like the other tissues, suffers from being stretched, and is thinned, discoloured, and often tremulous, this latter state in most of the cases being due to rupture of the ligament from stretching, and allowing the lens to sway on movements of the eye.

By the ophthalmoscope the refraction is usually found myopic, and the optic disc cupped. As a rule the tension is found to be increased, although cases are met with in which it would seem that after a time increase in size becomes arrested, and the tension becomes normal.

This condition of the eye has been described as congenital glaucoma, but those cases only should be called congenital where the pathological condition has commenced at the time of birth. Mr Priestley Smith says:—"The term buphthalmos is the expression of a persistent glaucoma, usually secondary glaucoma, in a young eye, an excess of pressure within the eye, plus the causes and the consequences of that excess," and defines the conditions under which intra-ocular pressure rises as—(*a*) hypersecretion by the ciliary processes; (*b*) obstruction at the filtration angle; (*c*) serosity of the fluids. In the infantile eye, increase of tension will cause the elastic coats to expand, much more so than in the adult. The blockage to the circulation of fluids in the eye in primary glaucoma in the adult is now generally admitted to begin at the circumlental space. Obstruction is thus brought about in the passage of fluids from the posterior to the anterior chambers, and, as a result, the lens and iris are pressed forwards, the anterior chamber is made shallow, and, consequently, the closure or compression of the corneo-iritic angle, and obstructed excretion from the aqueous chamber. These appear to be the important elements in nearly all the cases of glaucoma that have been carefully examined. In the infant eye the conditions are different; the primary block is not at the circumlental space, but at the filtration angle, fluid collects in the anterior chamber, and deepens it, instead of being made shallow, as in the adult.

Mr. T. Collins (*Researches on Anat. and Path.*, p. 104) frequently found the angle closed in eyes removed for congenital glaucoma or buphthalmos. He attributed this condition to imperfect development of the iris, which, growing forward out of the ciliary body, beneath the fibro-vascular sheath, just between the posterior surface of the cornea and the anterior capsule of the lens, might fail to become perfectly separated from the cornea at its periphery, and thus a congenital anterior synechia would result, which would tend to obstruct the exit of fluids through the filtration area.

Mr. F. R. Cross (*Trans. Oph. Soc.*, 1896) has had the opportunity of examining quite a number of cases pathologically, and found an imperfect condition of the filtration angle referable to developmental causes. In some cases it was found, as the globe enlarged and the anterior chamber deepened, that any adhesion between the iris and the cornea would become stretched and sometimes give way. In such cases the disease was arrested, and the tension became normal. History of the case:—

A. S., aged 3 years, came under my care at the Glasgow Eye Infirmary about two years ago. She is the ninth child of the family. Two died in infancy from whooping-cough and diarrhœa. Father weakly, and suffers from chronic bronchitis. Mother fairly healthy. She complains of the peculiar appearance of the child's right eye, noticed particularly when she was 4 months old, but possibly began at birth.

Examination.—It is noticed that the child is fretful, and holds its head to the side. The eye is much larger than its fellow, and the tension is decidedly plus. The cornea clear. Diameter was found to measure almost 20 mm. Anterior chamber deep, and it was noted that there was an absence of the full rounded hollow which should exist at the ligamentum pectinatum. Iris discoloured, dull blue, fellow eye being light blue. Pupil clear, and acting sluggishly. Ophthalmoscopic examination, made with some difficulty, showed the media were clear and the refraction myopic. The left eye appears normal, the pupil is active, and the cornea measures about 7 mm. in diameter, being the normal size for a child of her age.

VI.—MICROPHTHALMOS—COLOBOMATA, PERSISTENT PUPILLARY MEMBRANE, AND PROBABLE ABSENCE OF LENS.

By Dr. T. Spence Meighan.

The term microphthalmos is given to two classes of cases which present very different conditions. First, those in which there is no apparent congenital defect except that the eyeball is simply abnormally small. Second, those in which the eye, besides being small, has some other congenital abnormality resulting from imperfect closure of the fœtal ocular fissure. The case of R. M'L. belongs to this latter class. The eyes are not only small, but he has a congenital coloboma of the iris in each eye, placed upwards and inwards, and besides, the pupils are occupied by an opaque persistent pupillary membrane.

Coloboma of the iris is usually met with in the lower half, sometimes directly downwards, or downwards and inwards, and cases have been recorded in which it has occcurred in other directions. Several theories have been advanced to account for the absence of the iris in these cases. That which has been suggested by Manz is the more probable explanation of the abnormality. He believes that while the eye is in process of development, and the cornea, anterior fibro-vascular sheath, and lens lie in close contact with one another, the iris, in growing forwards, has to insinuate itself between the cornea and anterior fibro-vascular sheath on the one side and the lens on the other, pushing the prolongation from the posterior fibro-vascular sheath in front of it. The anterior fibro-vascular sheath subsequently becomes the pupillary membrane.

If we suppose some abnormal adhesion to occur between these structures, or some delay in their separation, then we can understand how a mechanical obstruction would be introduced to the growth of the iris forwards.

The pupillary membrane usually disappears before birth, but frequently small tags of it are seen in the pupillary area, and give no trouble. It is seldom, however, we see the whole area occupied as in the following case:—

History.—R. M'L., aged 11 years, was admitted to the Glasgow Eye Infirmary a year ago. He is the fourth child of nine children, of whom four are living, and five died in infancy. None of those living have any defects. Father is healthy. Mother healthy, but had sore eyes when young, and states that the grandmother was blind some years before death. States that the boy was apparently healthy when born, although she noticed there was some defect about his eyes when a month old, especially a white substance in his pupils.

Examination.—It was noticed that the boy was small for his age, and had suffered slightly from rickets. The eyes are strikingly small when compared with those of other children of the same age. The cornea of each eye measures about 7 mm. in diameter, and each is quite clear. The irides are brown coloured, and a coloboma is seen upwards and inwards in each eye. In the right eye the coloboma is 2 mm., and apparently extends to the base of the iris. In the left eye the coloboma is fully 4 mm., and also extends to the root of the iris. Both pupils are filled with persistent pupillary membrane. He can see large objects and count fingers.

Six months ago he was admitted as a resident patient, and I operated on the left eye to remove the pupillary membrane. The operation was performed under cocaine. The eyeball was fixed, and a fine needle passed through the cornea from above, and I was able to displace the membrane to the sides of the pupil. In a few days the membrane shrivelled, and was in great part concealed behind the iris. The pupil was bright and clear. On further examination, the presence of the lens could not be made out in his eye, and ophthalmoscopic examination failed to find any lens in his vitreous.

With + 14 D. he can count fingers at 15 feet distance, and with + 18 D. read letters in J. 14.

REVIEWS.

Gout: its Pathology and Treatment. By ARTHUR P. LUFF, M.D.Lond., B.Sc., F.R.C.P. London: Cassell & Co., Limited. 1898.

THIS work on gout is divided into four parts. Part I deals with the Pathology of Gout. After a statement of the chemical nature of uric acid and its compounds, and showing that uric acid cannot exist in the blood in the free state under any conditions, the author goes on to discuss the theories as to the causation of gout. The first to be discussed is that which teaches that excess of uric acid in the system is to be regarded as the primary cause of gout. Two views as to the mode of action of uric acid have been held—the first, adopted by Garrod and Roberts, is that the action of the compound is purely mechanical—Roberts even going the length of explaining the phenomena of irregular gout by the mechanical hypothesis; the second is that uric acid or its antecedents, such as the alloxur bases in the dissolved state, are capable of acting as a poison or irritant. The theory that morbid changes in the structure of the tissues are to be regarded as the primary cause of gout is next discussed; and the view of Ebstein that gout is due to necrotic changes, brought about by dissolved urates, is minutely criticised. We agree with the author in thinking that Ebstein's conclusions are fanciful, and not borne out by facts. The nervous origin of gout, as expounded chiefly by Duckworth, is next reviewed. We quite agree with the author in the conclusions he has arrived at on this part of his work, "that the greatest mass of evidence is in favour of the view that a salt of 'uric acid' is the *materies morbi.*" It is impossible for us to trace the author through the remaining chapters on pathology. We can say, however, that they constitute one of the most concise and clearly-stated accounts of the morbid anatomy and experimental pathology of gout that we have ever seen. One or two sentences may be quoted. "There are good reasons for believing that uric acid is, in health, only formed in the kidneys, and never appears in the general circulation, except under pathological conditions." "With diseases such as leucocythæmia and severe anæmia there is an over-production of uric acid, but no development of gout." The bearing of such sentences as these is to show that without functional or organic affection of the kidneys, gout will not be developed, even though there may be an excess of uric acid in the blood. We think the account of the pathology of gout so good, that we give the author's general conclusions in full.

"The main points and conclusions arrived at in the preceding account of the pathology of gout are as follows:—

"1. Uric acid is not normally present in the blood of man and other mammals, nor in the blood of birds.

"2. Uric acid is normally produced only in the kidneys.

"3. Uric acid is normally formed from urea, probably by conjugation of that substance with glycocine in the kidneys.

"4. Uric acid is present in the blood in gout as the soluble sodium quadriurate. In its soluble form it is not a toxic agent. It deposits from the blood as sodium biurate, which acts passively and physically as a foreign body in the tissues or organs in which it is deposited.

"5. The presence of uric acid in the blood in gout is due to its deficient excretion by the kidneys, and to the subsequent absorption of the non-excreted portion into the blood from those organs.

"6. Gout is probably always preceded by some affection of the kidneys, functional or organic, which interferes with the proper excretion of uric acid. The probable seat of the kidney affection giving rise to gout is in the epithelium of the convoluted tubes.

"7. In certain blood diseases and disorders accompanied by leucocytosis uric acid is formed within the system from nuclein. In such circumstances it passes at once into the blood and is rapidly eliminated by the kidneys."

Part II, dealing with the etiology, clinical features, and diagnosis of gout is properly short, as dealing with matters that are well known and generally accepted.

Part III contains an account of the author's investigations of certain points connected with the treatment of gout. The experiments are so numerous, and the bearing of them so important, that again we quote in full the author's conclusions:—

"1. The alkalinity of the blood is apparently not appreciably diminished during a gouty attack.

"2. The solubility of uric acid in the blood is not affected by a diminished alkalinity of the blood produced by the addition of organic acids.

"3. The deposition of sodium biurate is not accelerated by a diminution of the alkalinity of the blood.

"4. An increased alkalinity of the blood does not increase the solubility of deposits of sodium biurate.

"5. The gout-inducing properties of certain wines are not due to their acidity. Probably they owe their gout-inducing action to the effect they exercise on the metabolism of the liver.

"6. The solubility of sodium biurate is markedly increased by the presence of the mineral constituents of most vegetables.

"7. The solubility of sodium biurate is diminished by the presence of the mineral constituents of meat.

"8. The mineral constituents of certain vegetables delay the conversion of sodium quadriurate into the biurate.

"9. The vegetables most useful to gouty subjects are spinach, Brussels sprouts, French beans, winter cabbage, Savoy cabbage, turnip tops, turnips, and celery.

"10. The administration of the ordinary alkalies, of lithium salts, of piperazine, and of lysidine, with the object of removing gouty deposits, appears to be useless.

"11. No general acidity of the system is associated with gout.

"12. No relationship exists between the acidity of the urine and the alkalinity of the blood.

"13. The administration of salicylates with the object of removing gouty deposits appears to be useless, and their employment in the treatment of gout is contra-indicated."

Part IV deals with the therapeutics of gout. In this section we find that colchicum is somewhat rehabilitated. The author believes it to be beneficial, because it diminishes "uric acid production, thereby arresting the absorption of uric acid from the kidneys, and so preventing the further deposition of biurate in the affected parts." He is careful, however, to recommend that it should never be given in such doses as to produce extreme depression. No doubt the remarks on colchicum will give our readers greater confidence in the use of a drug which lately it has rather been the fashion to taboo.

We commend this little volume as a masterly exposition of the pathology and treatment of gout.

Diseases of the Heart and Aorta. By GEORGE ALEXANDER GIBSON, M.D., D.Sc. With 210 Illustrations. Edinburgh and London: Young J. Pentland. 1898.

DR. GIBSON is to be very heartily congratulated on having produced one of the most comprehensive works on heart disease in the language. The work, however, is not merely comprehensive, it is essentially well done—well arranged, and betraying a thorough knowledge of the requirements of a systematic treatment of the subject. The only criticism we would be inclined to make on the work as a whole is that occasionally the style is perhaps a little too discursive and argumentative, but this is a defect which is readily forgotten in the accuracy of the author's descriptions. On going through the book, however, we noticed a somewhat important typographical error at page 157, the second last line, where Gairdner's auricular systolic murmur is called an A.V. murmur. Obviously it should have been A.S.

Eighty-four pages are devoted to anatomical and physiological considerations. Obviously the whole of this is a compilation—though a very good one—from the works and monographs of anatomists and physiologists, with the exception of the author's own cardiographic observations on the cardiac movements in a case of fissured sternum. We in no way undervalue the practical importance of anatomy and physiology in their medical relations, but we think that the detail with which these matters are here narrated in a work dealing with diseases of the heart is just a trifle unnecessary. The general physician will not bother much with these chapters, as he will prefer to consult originals, and the student will certainly pass them by, having finished with these minute studies. We think that Chapters I and II might well have been considerably compressed without detriment to the value of the book.

The chapter entitled Pathological is a very good general *résumé* not only of cardiac, but also of general pathology, and we feel sure that it will receive the commendation of every pathologist. The general semeiology of cardiac disease is treated with a detail and clearness that we cannot praise too much, although we sometimes have the feeling that the illustration by diagrams is perhaps a little overdone. Too much of this sort of thing is apt to render one's knowledge artificial, to lead to attempts to express by systems of lines and circles matters which to the physician interpreting his own sensations are incapable of such graphic representation. This specially applies to the complicated drawings illustrating the conduction of cardiac murmurs. Some of them make one's eyes sore and one's head light in endeavouring to unravel their significance, and all the time the reader is haunted by the idea that he is looking at the drawing of some amœboid organism copied from a biological text-book. No doubt they show all that Dr. Gibson says they do, but we have a preference for the older methods of representing cardiac murmurs on skeleton outlines, where there is no difficulty in finding the great landmarks.

The chapters upon the individual affections of the heart are exceedingly well done, and are here and there illustrated by beautiful and most typical pictures in black and white of the lesions under consideration. The description of the diseases of the myocardium is exceptionally full and complete. The diseases of the aorta, especially aneurysm, are also treated with great clearness and precision. Altogether, the volume is one of the best text-books on the heart with which we are acquainted, and we most heartily recommend it as such to our readers. The full bibliography and index of authors renders it valuable as a work of reference, and the plan of placing the references at the end of the volume frees the pages from figures and footnotes, which are so distracting to the systematic reader. The publisher also is to be congratulated on the work.

The Surgical Anatomy of the Lymphatic Glands. By Cecil H. Leaf, M.A., M.B. Cantab., F.R.C.S. Eng. Westminster: Archibald Constable & Co. 1898.

"Since the introduction of formalin as a method of hardening and preserving the soft structures in the human subject was first introduced into this hospital [The London] by Mr. Keith, the relations and true position of all the structures can be much more easily appreciated than was formerly the case. During the last three years I have availed myself of this method to study the exact position of the lymphatic glands. . . . My object in venturing to bring this book to the notice of students is to indicate by a series of diagrams the position of the main groups of lymphatic glands, and to endeavour to show how these somewhat dry anatomical facts have an important bearing upon surgery." In these sentences Mr. Leaf states how he came to write this little book, and the purpose he hopes it may serve in the education of medical students. It is undoubtedly the case that the lymphatic system has hitherto received much less attention both from teachers and students than it deserves, and it is also true that the position, relations, and connections of the lymphatic glands have in recent years grown in importance, as operations on those organs have become more frequent and more radical. At the same time, it may be questioned if this book entirely fills the gap left by the ordinary text-books, or if it can in any sense be regarded as treating of the "Surgical Anatomy of the Lymphatic Glands." The important question of the particular areas from which the lymphatics connected with each set of glands are derived has been left untouched; the references to operations for the removal of glands are few, and are not notable for accuracy; and the illustrations do not commend themselves to the reader as artistically beautiful or anatomically accurate.

Mr. Leaf believes that he has established the fact of a communication between the lymphatics in the inguinal region and the small veins. This may be the case, but the intimate connection between small veins and the capsules of lymphatic glands, and the difficulty of distinguishing between the finer veins and the larger lymphatic vessels, render it very difficult to obtain undoubted assurance in the matter.

For the removal of cervical glands the author recommends a method which we gather he has only practised on the dead subject. He turns down a large flap of skin, which exposes the whole upper half of the posterior triangle of the neck and half the width of the sterno-mastoid muscle, and then proceeds to peel off the deep cervical fascia from the muscles forming the floor of the triangle, and from the inner surface of the sterno-mastoid, taking the glands with the fascia. He states it as his conviction that "the satisfactory removal of glands can be effected only by taking away in as thorough a manner as possible the cervical fascia in which they lie imbedded." A little experience of operations on the living subject will no doubt show Mr. Leaf that in most cases of tubercular glands they can be best and most thoroughly removed by not interfering too much with the cervical fascia, and that if they are shelled out from their connective-tissue sheath, the injury to both vessels and nerves will be infinitely less than by the somewhat heroic dissection he finds so easy on the subject in the dissecting-room.

The description of the glands corresponds pretty closely with that given in our text-books, and based upon the dissections and plates of Mascagni and Testut, but Mr. Leaf has in nearly every case tested the accuracy of the description by his own dissections, and has not failed to point out wherein his experience differs from that of other writers. We are quite at one with him in the view that it is a mistake to describe the cervical glands as forming a superficial and deep group, "for all the glands of the neck are deep, in the sense that they are imbedded in some part of the deep cervical fascia."

If the author will complete his work by investigating the arrangement and distribution of the lymphatic vessels, he will add much to the gratitude with which we receive this, his first book.

Degeneracy: its Causes, Signs, and Results. By EUGENE S. TALBOT, M.D., D.D.S. With 120 Illustrations. London: Walter Scott, Limited. 1898.

WE can readily believe the author when he describes this work as the result of more than twenty years' labour in a limited medical department of biology. It is an immense accumulation of facts put together so as to produce a most readable volume. The writer claims that the truth of the doctrine of degeneracy had forced itself upon him long before its enunciation in popular language by Lombroso and Nordau, because it alone would explain certain constitutional and local defects which came under his observation in the course of his practice as a dental surgeon.

The present work is largely based on papers previously published by the same author; but there is abundant evidence that he has, as he himself acknowledges, drawn largely upon the results of other men's labours. The underlying principle of the book is that the factors of degeneracy affect in the ancestor the checks on excessive action acquired during the evolution of the race, and induce a state of nervous exhaustion; the descendant is consequently unable to reach the state attained by that ancestor. In other words, neurasthenia in the ancestor tends to reproduce itself as neurosis in the descendant.

Among the subjects considered are the stigmata of degeneracy; heredity and atavism; consanguineous, neurotic and inter-racial marriages; the influence of toxic agents, infectious diseases, hygienic conditions, and school strain; the degenerate type of cranium, face and nose, lip, palate, eye and ear, teeth and jaws, brain and body; degeneracy in reversional tendencies and in mentality and morality.

The concluding chapter contains some very wise, and, we are grateful to recognise, very encouraging remarks; the outlook for the race is not so grave as might be feared. The recommendations for prophylaxis also strike us as excellent, and have our hearty endorsement. The book undoubtedly deserves a place in the library of every scientifically trained person.

Diseases of the Breast. By A. MARMADUKE SHEILD, M.B. Cantab., F.R.C.S. London: Macmillan & Co. 1898.

THIS substantial, beautifully bound, and well printed volume has been written in the hope "that it will contain useful and practical information in a condensed form, which may be of real interest and utility to the busy practitioner and advanced student." This hope is destined to be realised, we think, in the case of the practitioner, if not too busy, but scarcely with the student, advanced or other. If the student has to master the literature of surgery on the scale on which this part has been written, the time at his disposal is too short. But for junior surgeons and earnest practitioners this volume should be of the greatest service. The various diseases of the breast, both in their clinical and pathological aspects, are very clearly set forth, and the numerous pitfalls in their diagnosis are carefully pointed out.

After a sketch of the anatomy and the abnormalities of the gland, the author goes on to the description of the various forms and conditions of mammary abscess. This is perhaps the best chapter in the book, and if nothing else had been well written it supplies a sufficient *raison d'être.* The author's method of draining the abscesses as here described is noteworthy, though not new, as it has been employed in other operations of a similar kind before.

A very full and fair account of cancer of the nipple and gland follows, very much on the usual text-book lines. In the operation for removal of the breast, the author advocates the usual free clearing out of the axilla, completely stopping hæmorrhage by ligatures, douching the wound with a non-irritant or weak antiseptic solution, and the employment of a large drainage-tube for twenty-four hours. We would say that if the wound is rendered "dry," and due measures of cleanliness have been employed, there is not any use for a drainage-tube, large or small.

The plates, diagrams, &c., are very good. The illustration of form is always more successful than that of colour. Bearing that in mind, we think the plates are as well done as the nature of the cases allows.

On the whole, this book can be recommended as containing the story of the surgery of the breast up to date, and will take a good place in the young surgeon's library.

A Treatise on Aphasia and other Speech Defects. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. London: H. K. Lewis. 1898.

DURING the past thirty years Dr. Bastian has made many and valuable contributions to the literature which deals with disorders of speech; and of these, this work now before us is the most recent, and by no means the least important.

The book professes to review the whole subject of "aphasia and other speech defects," and it does so in a very complete and logical manner. The "views which after long study" the author has "been led to entertain" are clearly and firmly laid down, and with equal vigour are "examined" the doctrines of those who differ therefrom.

Dr. Bastian's views as to the physiology and psychology of speech are shortly as follows:—The brain cortex contains no "motor centres," for the "motor centres" of Ferrier and others are sensory in function. The work of these so-called motor centres is to stir up and guide the real motor centers which lie in the bulb and spinal cord. Voluntary movement is therefore practically a reflex action, and the fibres passing downwards from the cortex are afferent and not efferent. "The phenomena of volition are not the result of the working of any special faculty or mysterious entity, and are not carried on in motor centres; they are merely certain exemplifications of intellect in action. . . . Intelligence, sensation, emotion, and volition are mental processes, the primary stages of which are dependent upon, and inseparably connected with, different modes or aspects of the functional activity of the sensory centres in the cortex of the brain." In speaking, words are revived, not as a motor process in Broca's convolution, but chiefly as auditory ideas or images in the auditory centre. Broca's convolution has to do rather with the expression of thought than with the thinking process. It is a muscle-sense centre which transmits impulses to the motor centres in the bulb and spinal cord. That very briefly is the author's position, but for its elucidation we must refer our readers to the book itself.

The disorders of speech are carefully classified, and each is dealt with in great detail, being amply illustrated by means of clinical records. The etiology, diagnosis, prognosis, and treatment of these various disorders are likewise fully discussed.

The book, as a whole, is well conceived, carefully thought out, and vigorously written; it will certainly prove a very valuable contribution to the study of speech and its defects.

A Primer of Psychology and Mental Disease. By C. B. BURR, M.D. Second Edition, thoroughly Revised. Philadelphia: The F. A. Davis Co. 1898.

IN the present edition there has been added to that of 1893 a valedictory address delivered to the class of 1895 of the Training School for Attendants of the Eastern Michigan Asylum. The book is intended for use in such schools and in medical classes. The writer appears to have been much attached to his pupils and to his work, for not only does he *affectionately* inscribe the work to his pupils of 1892 and 1894, who were compelled to struggle on without the aid of this manual, but in his valedictory address he speaks thus:—"The invitation to address you to-night gives me a much prized opportunity to say how deeply I have felt our separation, and how difficult a task has been the severing of the bonds which attached me to this school."

At the first glance one is not enamoured of this work. After the preface, and before the text, there is a glossary which is apt to prejudice the critic a little. It contains thirty-two entries, the first of which is *albuminoid* and the last *syllabus.* It includes *invertebrate* but not *vertebrate, sensory* but not *motor, inorganic* but not *organic.* How a pupil who requires *nasal* to be defined for him as *pertaining to the nose* can be satisfied by learning that *albuminoid* means *resembling albumin,* without also being informed what albumin means, we do not quite comprehend.

Nevertheless, as one proceeds with the perusal, the prejudice wears off. The text is in four parts and occupies 100 pages, and there is besides an index of 16 pages. Part I treats of psychology, Part II of insanity, and Part III of the management of cases; while Part IV, the valedictory address already alluded to, consists of suggestions as to what to do and what to avoid in caring for the insane. Our fear is that the scientific teaching in the earlier portions of the book will prove to be beyond the depth of a considerable proportion of those who are being trained to be asylum attendants; but otherwise we have no fault to find with it, and a great part of it strikes us as thoroughly good. It is well arranged, well written, and well printed, and we heartily commend it to the notice of those for whom it is principally designed.

Cerebral and Mental Symptoms in Relation to Somatic Disease, Anæsthetics and Toxic Agents, Traumatic and Surgical Procedures, with a Review of the Treatment of Some Cerebral and Mental Symptoms by Operation. A Thesis presented for the Degree of Doctor of Medicine of the University of Edinburgh in 1895. By JAMES CHRISTIAN SIMPSON, M.B., C.M., M.D. London: John Bale, Sons & Danielsson, Limited. 1898.

THIS lengthy thesis was "deemed worthy of competing for the Theses Gold Medals" in Edinburgh University, and as this was three years ago, and no alteration has been made in the text since then, its appearance is somewhat tardy. The work consists of five parts, the first two of which have already been published in the *Caledonian Medical Journal*, a circumstance which is in part accountable for the delay. The association of mental symptoms with the different bodily diseases is considered in the first part; the association with toxic states in the second; with trauma, sunstroke, lightning stroke, &c., in the third. The fourth part deals with the employment of surgical procedures for the relief of cerebral and mental symptoms, and the fifth with post-operative insanity. A bibliography is appended. The author has obviously read extensively in the preparation of this work, and we congratulate him on the result of his labours.

Text-book of Diseases of the Kidneys and Genito-urinary Organs. By **Professor Paul Fürbringer.** Translated by W. H. Gilbert, M.D. Vol. II. London: H. K. Lewis, 1898.

Five years ago we noticed the appearance of the first volume of Dr. Gilbert's translation of Fürbringer's well-known work. We have now pleasure in welcoming the somewhat belated appearance of the second. The work is a storehouse of information on the diseases of which it treats, and this translation will bring that information within the reach of English readers. A full bibliography and a complete alphabetical index add much to the value of the work.

Practical Uranalysis and Urinary Diagnosis. By **Charles W. Purdy,** M.D., LL.D. Fourth Revised Edition. Philadelphia: The F. A. Davis Co. 1898.

Seeing that the first edition of this work appeared so recently as 1894, its reception must have been very favourable. As the title indicates, the work consists of two parts. The first deals with the examination of the urine, and gives an account of its normal and abnormal constituents, soluble and suspended. Quantitative as well as qualitative tests are described. The second part is on urinary diagnosis, and discusses the disorders of the urinary organs and the condition of the urine in other diseases. There is an appendix on examination of the urine for life insurance, and another which gives a list of the instruments and reagents necessary for carrying out complete analyses.

Of course, we scarcely expect to meet with a work that can even rival Roberts' classical treatise; but of the others that we have seen, this is certainly one of the best. It has its faults of style, due to its American origin; and of grammar, attributable to carelessness. It has its omissions also, for we find no allusion to sarcina urinæ, and no statement of the theories that have been put forward to explain the absence of chlorides from the urine in pneumonia. Dr. Manson's name is twice printed "Mason" on p. 211. The writer wisely cites the very important teaching of Sir William Roberts on the neutral urates, biurates, and quadriurates; but this quotation on pp. 157-159 is at variance with the author's own language in the succeeding pages, and also in an earlier part of the volume. For instance, he quotes from Roberts the remark that "the neutral urates are never found in the animal body, and are only known as laboratory products" (p. 157); whereas he has himself declared (p. 30) that, "if the urine remains clear for some time after cooling, we may infer that the contained urates are in the soluble form of neutral urate." Similarly there is in his teaching about acid urates or biurates and quadriurates a confusion that might perplex a careful student. In the main, however, we heartily recommend this volume as a useful and creditable piece of work.

Text-Book of Zoology. By H. G. WELLS, B.Sc., Lond., and A. M. DAVIES, B.Sc. Lond. London: W. B. Clive. 1898.

THE work before us does not present a general account of zoology, being intended for the guidance of students preparing for the Intermediate Science and Preliminary Scientific Examinations of London University. The plan adopted by the writers is the selection of certain types, which are fully wrought out. The vertebrate types selected are the rabbit, frog, dogfish, and amphioxus; the invertebrate types, given in less detail, are the paramœcium, hydra, lumbricus, anodonta, and astacus.

There is a very excellent chapter on development, in which the vertebrate types are critically compared in their phylogenetic relations.

The work is clearly written, and is well illustrated with numerous diagrams, the drawings for which have been prepared by Mrs. Davies. It is eminently suitable for the purposes for which it is intended.

On Varix: its Causes and Treatment, with Especial Reference to Thrombosis. An Address delivered at the Inaugural Meeting of the Nottingham Medico-Chirurgical Society, Session 1898-99. By WILLIAM H. BENNETT, F.R.C.S. Eng. London: Longmans, Green & Co. 1898.

WE cannot say that there is anything particularly novel or startling in this address of Mr. Bennett's. Surgeons have for many years past been pretty well agreed as to the good to be obtained by excision of varicose veins, and have for the most part limited their operations to the "dangerous region" which our author makes so much of. He has a horror and apprehension of thrombosis and consequent embolism beyond that of other surgeons; and advises operation more to prevent these consequences than for ulcers, eczema, or other distal conditions. Further, he looks with strong suspicion on elastic stockings and bandages, regarding them as a common cause of thrombosis. On these points, therefore, Mr. Bennett has rather extreme views, but they are worthy of consideration, if tempered by the judicial spirit which every reader should exercise.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

SURGERY.

By T. W. JENKINS, M.A., M.D.

A Successful Gastrectomy for Cancer of the Stomach.—Richardson (*Boston Medical and Surgical Journal*, 20th October, 1898) gives the case of a woman, aged 53, with *a smooth, somewhat flattened, hard, tympanitic tumour about the region of the umbilicus*, the only symptoms being continuous loss of weight and strength, with indigestion and discomfort for a period of twelve months. On 31st May of this year laparotomy was performed, when the tumour was found to be the greatly contracted stomach. The subsequent procedure was—(1) Separation of omentum, which was tied with silk in 1-inch sections. About 5 inches of the transverse mesocolon were unintentionally included in the sections, but the gap was later closed by suturing the V-shaped edges; (2) Section of duodenum; (3) of attachments of lesser curvature; (4) of cardiac end of stomach. It was surprising to see how easily, by traction of the freed stomach, the upper extremity could be examined and manipulated; (5) diminution of cardiac opening to adapt it to lumen of duodenum; (6) duodenum freed from posterior attachments to allow approximation to upper segment; (7) junction of ends by interrupted Lembert sutures of silk.

The loss of blood was inconsiderable, the shock slight, the time of operation one hour.

The after-treatment is given in great detail. There was some discharge from the wound, but the patient made a good recovery, and was able to go home on 5th July. At present she is enjoying life, her food satisfies her hunger, is digested perfectly well, the bowels move normally, and she is free from the distress that she used to have after taking food.

"The microscopic examination shows the fibrous submucous tissue increased in density, with large numbers of lymphoid and plasma cells scattered through it. This can be followed between the bands of the muscular fibres, which seem also to be hypertrophied. The mucous membrane is here thickened, there diminished. In one section, in a small area, the glands are atypical, solid, and appear to be extending into the submucosa," from which the writer infers the diagnosis should be cancer with a diffuse submucous hypertrophy (scirrhous cancer).

Gastro-Enterostomy.—Monprofit has performed this operation fourteen times for cancer of the stomach and five times for chronic gastritis. Of the former series there were two deaths soon after operation, ten patients were greatly benefited, and two not at all. Of the latter series, all the patients were cured.

Several methods were employed, but the writer is in favour of posterior gastro-enterostomy, and would make use of the anterior method only where no other was possible.

Chylous Cyst of Mesentery.—The following case is given by Batehead in the *Boston Medical and Surgical Journal*, 17th Nov., 1898:—

A man, æt. 54, well till six months before admission to hospital, when he began to complain of soreness and pain in epigastrium after meals, eructation of gas, and constipation. No vomiting. Appetite fair. Four months later discovery of tumour in abdomen during an attack of colic. A few weeks thereafter, abandonment of work owing to abdominal pain.

The mass could be moved from above the symphysis pubis to the right loin (kidney?), and was occasionally the seat of pain. The patient could lie comfortably only on the right side. The solidity, shape, and mobility of the tumour raised doubts as to its renal origin.

Through an incision in the right semilunar line a coil of small intestine, with bulging mesentery (the tumour), protruded. Aspiration yielded eight ounces of a milky fluid containing oil globules.

The cyst which had developed between the mesenteric folds was dissected from its attachments, and the opening closed.

Splenectomy for Injury.—Krabbel (*Centralblatt f. Chirurgie*, No. 48, 1898) records the case of a boy, aged 9½ years, who fell from a height on his abdomen. The symptoms were severe pain in *right* side of abdomen and *neck;* abdomen tense and painful on palpation, especially over liver; respiration painful; pulse rapid. Patient pale, cold; temperature, 37° C.; liver dulness present; no blood in urine. Laparatomy four hours after accident, there being signs of increasing internal hæmorrhage. Spleen found broken up into several parts, which were removed. Active hæmorrhage from hilus. Saline transfusion after operation.

Five days later hæmoglobin, 60 per cent; after four weeks, 80 per cent. The glands of the elbow and groin were found to be enlarged, but no alteration was noted in the thyroid.

Exosplenopexy.—Houzel (*Centralblatt f. Chirurgie*, No. 48, 1898) describes a remarkable case of greatly hypertrophied spleen simulating a solid ovarian tumour. When it was found that it could not be removed owing to intestinal adhesions, the capsule was sutured to the parietal peritoneum, the greater part of the organ being left exposed. At the end of four weeks a "splenic sequestrum," the size of a man's head, was discharged, and six weeks later the abdominal wound spontaneously closed. A year later the patient was well.

Roentgen Rays in Diagnosis of Nephrolithiasis.—Ringel *Centralblatt f. Chirurgie*, No. 49, 1898) explains on experimental grounds why the x rays are of little service in detecting renal or vesical calculi. Phosphatic calculi allow the rays to pass; uric acid calculi offer a feeble resistance; oxalates alone are impervious. The latter being the rare form, the rays are seldom of use.

Temporary Treatment of Hernia Cerebri.—Franke (*Centralblatt f. Chirurgie*, No. 47, 1898) recommends the insertion of a celluloid plate between the bone and the dura as a temporary expedient, and describes a case in which the hernia disappeared after three weeks' use of the plate, allowing an osteoplastic operation to be performed.

Extensive Resection of Pelvis.—Bardenhener (*Centralblatt f. Chirurgie*, No. 46, 1898) gives the following as a typical radical operation for sacro-iliac disease:—

(1) Incision from middle of Poupart's ligament to anterior superior spine, along crest to posterior inferior spine, across middle of sacrum down to tuber ischii. (2) Section of external lip of crest of ilium, and separation of periosteum on outer surface of bone to above hip-joint (skin, muscle, and periosteal flap). (3) Section of internal lip of crest, and similar procedure on inner surface of ilium as far down as upper surface of acetabulum. (4) Passage of Gigli, saw through sciatic foramen and over ilium, and division of latter in horizontal plane above hip-joint. (5) Separation of bone from synchondrosis. (6) If sacrum involved, removal of diseased parts by chisel. The nerves are easily avoided by passing a sound into the foramina. (7) Closure of wound, the lips of the iliac crest being reunited.

Primary healing has been obtained. The functions of the leg are not impaired, as is the case when the synchondrosis alone is removed, leaving a gap between the two bones.

Abdominal Hysterectomy by Median Section.—Faure introduces another manœuvre which may be useful where the uterus is not too large. It consists in longitudinal section of the uterus down to the vagina, and separation of the two halves thus formed from below upwards, which, especially in cases of suppurative disease of the appendages, is easier than the usual method from above downwards.—(*Rev. de Chirurg. Supp.*, Nov., 1898.)

DISEASES OF THE SKIN.

By W. R. JACK, M.D., B.Sc.

The Exanthem of Measles on the Buccal Mucous Membrane.—Belski (*Medicinskoe Obosrenie*, 1898, Bd. 50, H. 4) states that the occurrence of the exanthem of measles on the buccal mucous membrane was first described by Koplik, although he himself had described it in 1890. Having now observed a much larger number of cases, he returns to the subject at greater length. In the prodromal stage of measles, either on the second day or, more frequently, at the beginning of the third, there appears upon the mucosa of the cheeks a peculiar exanthem, in the form of very small whitish flecks, partly solitary and partly grouped. They are surrounded by a narrow hyperæmic ring, which may at times surround only one side in the shape of a crescent. Where the flecks are grouped, the entire group is surrounded by a hyperæmic ring. The shape of the individual flecks is irregular, for the most part jagged, and their surface is uneven, loose, and somewhat raised. They are difficult to remove, and after removal a slight loss of substance is noticeable in the epithelial layer. The eruption progresses rapidly, and on the third or fourth day involves the entire buccal mucosa, which appears as if its epithelium were loosened and eroded. The general hyperæmia progresses with the eruption, and finally becomes diffuse; the numerous punctate islands of eruption thus become very prominent upon the dark surface of the mucosa, which looks as if it were powdered with a whitish dust. The exanthem reaches its height at the time of the appearances of the skin eruption—*i.e.*, at the end of the fourth day or the beginning of the fifth. It disappears soon afterwards, and on the second day of the skin eruption nothing but an irregular redness and sponginess of the mucous membrane is to be seen. The exanthem on the mucosa is so different from that on the skin that at first sight it is difficult to recognise their identity and their genetic relationship. On closer observation the analogy becomes clear, particularly if it is borne in mind that the primary elements of the cutaneous eruption are also very small, and that the larger maculæ are formed from the grouping of these small elements.

The appearances described are not a constant feature of measles; in some cases there is nothing characteristic in the mouth. If they be present, however, measles may be diagnosed with certainty; neither in scarlatina nor in rubeola are such phenomena observed. The author has in many cases been able to make the diagnosis of measles solely from the presence of this exanthem, in the absence of all other prodromata, and has found it confirmed by the later appearance of the cutaneous rash. He therefore believes it to be pathognomonic of the disease, and perhaps the most certain of all the signs of its presence.—(From an abstract in the *Deutsche Med. Zeitung*, 2nd January, 1899.)

Miliary Tuberculosis of the Skin.—Kaposi (*Arch. f. Dermat. u. Syph.*, xliii) finds this affection not entirely rare, having seen at least fifty cases of it, of which twenty-two were treated in his clinique. It is almost exclusively found in those suffering from tuberculosis of internal organs, particularly those of the respiratory tract, but not, as has been maintained, only in the last stages of such diseases. Among the twenty-two cases the affection was most frequently seated upon the upper lip and alæ nasi, but was also found on the lower lip, chin, ear, nates, anal region, elbow, and fore-arm. In eight cases it was confined to the skin; in the rest the adjacent mucous membrane was also affected. Its clinical characters are best seen in the ulcers, which are for the most part very shallow and extremely painful, with jagged edges and a pale reddish floor, their secretion being viscid and serous. They are often surrounded by little nodules about the size of a poppy seed, which break down and lead to extension of the ulcer. Tubercle bacilli could usually be found, but not always. Kaposi does not think the prognosis of the local disease so bad as other authorities; it is perhaps better than that of lupus vulgaris. Tuberculous ulcers of the mucous membranes are much more frequent. They occur chiefly in the mouth and nasal cavity, but also on the vulva, and in the vagina, urethra, and bladder. Tuberculosis of the mucous membrane often implicates the skin in the neighbourhood. The ulcers present an eaten-out appearance of the wall and floor, are covered with a greyish secretion, and are often surrounded by miliary tubercles. They are very painful. Rarely, there is a largish ulcer surrounded, often at some distance, by disseminated miliary ulcerations on the tongue, cheeks, and gums. These arise from the breaking down of very small red nodules, pustular at the summit, and such appearances are very characteristic.

Pemphigus Foliaceus in the New-Born.—Hellier (*Brit. Jour. Dermat.*, January, 1899) reports a case of this nature. The mother was a young and healthy primipara, and the father, though he had once had a soft chancre, presented no evidence or history of syphilis, and was otherwise healthy. The labour was easy and natural, a healthy female child being born.

Until the ninth day there were no symptoms, but the nates and hips then became unduly red, and on the tenth day large flaccid bullæ formed over the hips, abdomen, and back, where much of the skin was already denuded, leaving a raw red surface. The lips and chin were also denuded, and the skin was generally reddened. The contents of the bullæ were serous. The child looked as though very badly scalded. On the eleventh day the condition was rapidly spreading. There was a huge bulla on the left shoulder, and most of the skin was involved, except the front of the chest. The child died early next morning—*i.e.*, on the commencement of the fourth day of the disease. Three hours after death it looked like a fœtus that had been macerating in the womb for some days before delivery. The mother made an excellent recovery, without infective symptoms. The author is unable to account for the occurrence of the disease in this case, but is convinced that it was not syphilitic.

DISEASES OF THE EAR.

By Dr. WALKER DOWNIE.

The Technique of Tympanic Inflation. By Edwin Pynchon, M.D., Chicago.—This is an interesting paper on the objects and methods of inflating the middle ear.

The philosophy of tympanic inflation is to accomplish either one or more of the following objects:—

1. To secure ventilation of the tympanum.
2. To remove abnormal secretions or discharges.
3. To restore the normal air pressure in the tympanum.
4. To correct the engorgement of vessels due to rarefaction.
5. To promote the absorption of inflammatory products.
6. To push out the abnormally retracted drum-head.
7. To cause massage of the ossicles.

For purposes of inflation Dr. Pynchon uses compressed air in cylinders, which has several advantages over inflation by means of the hand bag. Amongst the advantages claimed are—that pressure may be readily varied, the flow may be continuous, or there may be an intermittent flow with infrequent or rapid breaks, the air may be medicated or otherwise, and any desired temperature may be obtained. He describes and figures the "air tank," the inflator points, and a form of nebulizer, and he gives in detail the methods of their application according to the object to be accomplished.—(*Laryngoscope*, November, 1898.)

Modern Possibilities in Chronic Catarrhal Deafness. By S. F. Snow, M.D.—The author in this paper urges the necessity of first dealing with all intra-nasal abnormalities which may be met with in cases of chronic middle ear deafness, and which so frequently form the exciting cause of this condition. When the nasal passages have been brought to a healthy state, long continued intra-tympanic medication is necessary. It is on this latter point he dwells. He takes exception to the teaching of the text-books which say that, "if after a course of treatment by generally accepted methods for six weeks, the patient shows no material change, it is a hopeless case, and it is wrong to encourage the patient to continue further."

He gives details of three chronic cases where, after the complete removal of the various pathological conditions within the nose and naso-pharynx, he employed various forms of medication to the nose, Eustachian tubes, and middle ear for many months, with little change at first, but with marked improvement in the end. He thinks such chronic cases are too frequently dismissed as incurable after a very insufficient course of treatment.—(*Laryngoscope*, December, 1898.)

What can be Accomplished by Treatment of the Eustachian Tube. By G. M. Marshall.—This paper treats chiefly of chronic stenosis of the Eustachian tube. The effects of the closure of the tube are well-known, the chief of which is the disturbance of equilibrium of atmospheric pressure on the two sides of the drum head. Through the intra-tympanic rarefication thus produced, venous congestion and an inward displacement of the membranes follows, causing numerous subjective symptoms. He emphasises the importance of nasal and naso-pharyngeal deformities which may cause nasal stenosis, and which underlie the catarrhal affections and the subsequent stenosis of the tube. These must be corrected or removed before the aural affection can be treated with hope of success. In the treatment of the tubal stenosis Dr. Marshall relies chiefly upon the use of bougies. The bougie is introduced twice weekly, and allowed to remain in position in the tube for twenty to thirty minutes on each occasion.—(*Journal of the American Medical Association*, March, 1898.)

DISEASES OF THE THROAT.

By JOHN MACINTYRE, M.B.

Anæsthesia in the Removal of Adenoid Growths.—This question, which is of great importance to the general practitioner as well as the surgeon, has been attracting some attention of late. Dr. Frank Whitehill Hinkel read a paper before the American Laryngological Association, which is reproduced in the *New York Medical Journal* for 29th October, 1898. Including his own case, he has been able to record eighteen of death following the administration of chloroform for the removal of naso-pharyngeal adenoids, hypertrophied tonsils, or both. In four cases death took place before the operation was begun, in three from a few moments to an hour after the operation was completed. He refers more particularly to the works of Paltauf and Kolisko, which have thrown some light upon the cause of the mortality. The author thinks that chloroform anæsthesia for the removal of hypertrophied pharyngeal and faucial tissue is attended by grave risks.

Early Diagnosis in Whooping-cough.—Dr. Henry Lewis Wagner maintains that the attacks of whooping-cough can be made out at once by bacteriological examination of the nasal secretion. He states that the normal secretion of the nostril contains very few bacteria, while in whooping-cough we find a large mass of bacteria of one kind—a natural pure culture of "polbacteria" (Czaplewski and Heusel). He points out that the former was taken ill with whooping-cough during the study of the disease, and the examination of his nasal and pharyngeal secretion showed the same bacteria as he was studying. The author strongly recommends local treatment, which Michael long ago advocated, and which has lately been revived by Moizart.—(*New York Medical Journal*, 8th October, 1898.)

Nasal Hydrorrhœa. By Dr. St. Clair Thomson.—This interesting subject, which has attracted a good deal of attention since Bosworth's paper in 1889, is further considered in a paper by Dr. St. Clair Thomson read at the Edinburgh meeting of the British Medical Association held in 1898. An abstract will be found in the *Laryngoscope* for November, 1898. The author's contribution only claims to have advanced the matter one step by distinctly differentiating those cases where the nasal watery flow is really an escape of cerebro-spinal fluid. The author was led to consider this in connection with a case shown before the Laryngological Society of London, where, in an otherwise perfectly healthy subject, cerebro-spinal fluid, with rare intermission, escapes day and night from one side of the nose.

Literature.—*The Throat and Nose and their Diseases*, by Lennox Browne, assisted by Mayo Collier, James Cagney, and Wyatt Wingrave. Baillière, Tindall & Cox, London. This important work is now in its fifth edition.

Atlas and Abstract of the Diseases of the Larynx, by Dr. L. Grunwald, Munich. The Rebman Publishing Co., Limited, London.

Electricity in Diseases of the Nose, Throat, and Ear, by Dr. W. Sheppegrell. G. P. Putnam's Sons, London.

"Histology and Pathology of the Middle Turbinated Bone," by Fredric C. Cobb. *Journal of the Boston Society of Medical Sciences*, June, 1898.

"On the Vaso-motor Innervation of the Larynx," by Dr. E. Hedon (translation by Macleod Yearsley, F.R.C.S., *Journal of Laryngology*, December, 1898). *La Voix*, June, 1898. This paper may be recommended to those interested in the vaso-motor supply of the larynx.

Books, Pamphlets, &c., Received.

A Manual of Otology, by Gorham Bacon, A.M., M.D., with an Introductory Chapter by C. J. Blake, M.D. London: Henry Kimpton. 1899. (9s. net.)

The Anatomy of Labour as studied in Frozen Sections, and its bearing on Clinical Work, by A. H. F. Barbour, M.A., B.Sc., M.D. Second Edition. Edinburgh: W. & A. K. Johnston. 1899.

Albuminuria and Bright's Disease, by Nestor Tirard, M.D., F.R.C.P. With Original Illustrations. London: Smith, Elder & Co. 1899. (12s. 6d.)

The Retrospect of Medicine, edited by James Braithwaite, M.D. Vol. 118 (July to December, 1898). London. Simpkin, Marshall, Hamilton, Kent & Co., Limited. (6s. 6d.)

Glasgow Hospital Reports, edited by George S. Middleton, M.A., M.D., and Henry Rutherfurd, M.A., M.B., C.M. Vol I. With 65 Illustrations. Glasgow: James Maclehose & Sons. 1898.

Saint Thomas's Hospital Reports, edited by Dr. Hector Mackenzie and Mr. G. H. Makins. Vol. XXVI. London: J. & A. Churchill. 1898. (8s. 6d.)

An American Text-book of Gynecology, Medical and Surgical, for Practitioners and Students, edited by J. M. Baldy, M.D. Second Edition, revised. With 341 Illustrations in the Text, and 38 Coloured and Half-tone Plates. London: The Rebman Publishing Co., Limited. 1898. (34s.)

An American Text-book of the Diseases of Children, edited by Lewis Starr, M.D. Second Edition, revised. London: The Rebman Publishing Co., Limited. 1898. (Two Vols., 42s.)

The Diseases of the Stomach, by William W. Van Valzah, A.M., M.D., and J. Douglas Nisbet, A.B., M.D. Illustrated. London: The Rebman Publishing Co., Limited. 1899. (20s.)

A Clinical Text-book of Medical Diagnosis, for Physicians and Students, by Oswald Verordt, M.D.; Authorised Translation with Additions, by Francis H. Stuart, A.M., M.D. Fourth Edition, revised and enlarged. With 194 Illustrations. London: The Rebman Publishing Co., Limited. 1898. (24s.)

Golden Rules of Surgical Practice, by E. Hurry Fenwick, F.R.C.S. Fifth Edition. Bristol: John Wright & Co. 1898. (1s.)

Golden Rules of Gynæcology, by S. Jervois Aarons, M.D. Bristol: John Wright & Co. 1898. (1s.)

Golden Rules of Obstetric Practice, by W. E. Fothergill, M.A., B.Sc., M.D. Bristol: John Wright & Co. 1898. (1s.)

The Edinburgh Medical Journal, edited by G. A. Gibson, M.D., F.R.C.P. Ed. New Series. Vol. IV. Edinburgh: Young J. Pentland. 1898.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDING 21st JANUARY, 1899.

	Week ending				
	Dec. 24.	Dec. 31.	Jan. 7.	Jan. 14.	Jan. 21.
Mean temperature, . .	43·9°	42·1°	38·5°	41·6°	42·1°
Mean range of temperature between day and night, .	8·8°	11·3°	10·8°	8·9°	11·1°
Number of days on which rain fell, ...	5	5	6	7	7
Amount of rainfall, . ins.	0·60	1·58	0·88	1·47	3·50
Deaths registered, . . .	252	247	283	299	316
Death-rates, ...	18·1	17·7	20·1	21·2	22·4
Zymotic death-rates, . .	2·6	2·0	2·8	2·6	2·5
Pulmonary death-rates, .	5·3	4·6	5·5	6·9	7·8
Deaths—					
Under 1 year, ...	43	48	63	54	62
60 years and upwards, .	39	47	48	61	58
Deaths from—					
Small-pox, ...	...	...	...	...	...
Measles, ...	6	6	3	3	2
Scarlet fever, ...	9	6	7	5	4
Diphtheria, ...	1	1	3	4	2
Whooping-cough, . . .	9	7	13	19	15
Fever, ...	8	5	3	2	4
Diarrhœa, ...	3	3	11	4	8
Croup and laryngitis, .	2	4	...	3	2
Bronchitis, pneumonia, and pleurisy, . . .	60	46	51	68	91
Cases reported—					
Small-pox, ...	...	...	...	...	...
Diphtheria and membranous croup, ...	10	7	13	25	12
Erysipelas, ...	21	23	37	38	23
Scarlet fever, ...	98	72	83	147	91
Typhus fever, ...	1	...	...	...	...
Enteric fever, ...	21	13	16	25	19
Continued fever, . . .	...	...	...	1	...
Puerperal fever, . . .	...	1	3	...	2
Measles,*	55	33	60	90	58

* Measles is not notifiable.

Sanitary Department,
Glasgow, *25th January, 1899.*

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ORIGINAL ARTICLES.

TREATMENT, IN THE EARLY STAGES, OF ACUTE APPENDICITIS BY SALINE APERIENTS.

By A. ERNEST MAYLARD, M.B., B.S. Lond.,
Surgeon to the Victoria Infirmary, Glasgow.

It was hardly likely that the almost sudden change from the older conservative systems of treating acute cases of appendicitis into active surgical interference, would have any very lasting or permanent results. As in all similar instances of some unusually radical innovation, it is the inexperienced who are most easily tempted to rush into the new field, and before time can possibly have had its chance of testing the good, bad, or negative effects of the new line of treatment, they proclaim far and wide the too hastily and immaturely drawn conclusion that the proposed new remedy is a perfect cure for the complaint. Immediately it was shown that the inflammatory condition so frequently met with in the right groin, and with which medical men at all times had been perfectly familiar, had its origin in the vermiform appendix, a certain active section of the surgical confraternity at once rushed to the conclusion, and were prepared to act upon it, that the right and only proper thing to do was to cut out the appendix. Nothing appeals to the young and enthusiastic surgeon like operating—the younger and less experienced he is, the more, as a rule, is he prepared to use the knife on the slightest pretext. I say this in no sense to the discredit of the budding young surgeon. It is an affliction which besets the early career of every man touched with the right enthusiasm for his profession, and has been the attribute of most men who have become distinguished operators in after life. Only it needs to be discounted and properly appreciated in weighing the merits of new methods of treatment, especially when these are promulgated with too much assurance, and with too little regard for those older and well-tried methods which it is proposed so radically to supersede.

That an active revulsion from the sweeping operative measures proposed in the treatment of acute appendicitis was likely, sooner or later, to set in, was in the general nature of things certain. There were those, be it to their credit, who from the very first had foreseen the inevitableness of this reaction, and who had failed to be caught in the current of enthusiasm which carried along so many. To these cautious ones every case of appendicitis was *not* going to be the precursor of repeated attacks, nor of complications that might or would lead to troublesome and sometimes fatal results. To them, also, the operation of appendicectomy was *not* to be considered, as these enthusiasts would have it, perfectly free from danger, both immediate and remote; it was an operation to be performed by careful selection, and not indiscriminately. That these cautious surgeons were on the right lines is now sufficiently attested to, by the way their ranks are being swelled with those who, at first led away by the seductiveness of the supposed radical and only cure, are now settling down to the belief that, while there are unquestionably certain cases that demand and are greatly benefited by operation, there are, with equal certainty, a very great many that may with advantage be left alone. It is with this latter class that I am principally concerned in the following remarks.

I wish, in the first place, to assert that there are possibly, indeed, probably, many cases of appendicitis that are pathologically as simple in their inflammatory processes as would be found in ordinary attacks of subacute tonsillitis or catarrhal pharyngitis. We do not know why a patient suffers from a sore throat, but we know that it will certainly get well by very simple measures; and we equally know that many other regions and organs of the body are temporarily attacked with inflammation which subsides without suppuration and without any other subsequent complications. Because these various other parts of the body may at certain times, and under certain conditions, give rise to serious consequences, we do not base our rule of action on these exceptional results. The radical measures we may deem it proper to employ when these untoward results do accrue, are certainly not those we should dream of exercising in every case. And yet this process of generalising—one method of treatment for all cases—is exactly the line taken up by many surgeons, and especially by our brethren across the Atlantic, in regard to appendicitis. Just because occasionally, and only occasionally, serious complications have arisen in the course of apparently simple cases, therefore, we are to apply the rule of total extirpation of the offending organ in every instance, and submit all our patients to the operation of appendicectomy. Of course, one must not minimise in the slightest degree the grave importance of such a complication as perforative peritonitis; and did this serious complication arise in any material proportion out of the total number of cases affected, there would be very strong *à priori* reasons for advocating removal of the appendix at a comparatively early stage in the disease. As a matter of fact, however, when we consider how extremely common attacks of appendicitis are, it is comparatively rarely that the accident of perforation takes place. My infirmary statistics would, to some extent, belie this latter statement, and that because a collection of my cases would comprise those which had been sent to the hospital because perforation had taken place. If, however, I exclude these cases, and count only those which have been admitted as simple acute attacks, but in which before dismissal from the infirmary perforation has taken place, the percentage of proportions would be about three. It remains for those who advocate operation at an early stage to justify their position in the light of such statistics. I am quite aware that the question of perforation is not the only one which is raised in support of early operative interference, but it is certainly the most cogent, and if it is possible to weaken it justly as a factor in the discussion, the advocates of early and radical operation have but little to support them.

Of course, it must be distinctly understood that my remarks have special reference to the performance of appendicectomy during the early acute stage of the disease. I say nothing of subacute, recurrent, recrudescing, or relapsing attacks where there can be no doubt as to the proper operative treatment to adopt, nor of cases associated from the first or later with peritonitis or obstruction. Operation may be considered imperative in such instances, but the question before me at present is the treatment of cases in the early acute stage, say, within the first four days or so. It is in these cases that I join issue with those who advocate operative interference. When I wrote the chapters in my book[1] on appendicitis, the operation of appendicectomy may be said to have reached its apotheosis, and to venture, as I did then, to dampen what seemed to me an over-zealous advocacy of too active treatment, was to call forth on the part of one of my reviewers a denouncement of my opinions. To put it in his own words:—"The grim statistics of so many of our hospitals are mainly due to this teaching, and the number of lives yearly sacrificed to the unwillingness or inability of surgeons to recognise their plain duty in these cases is appalling"—the plain duty, according to my reviewer, being that if no improvement was observed at the end of forty-eight hours, "operation should be undertaken without hesitation." It need hardly be pointed out to my certainly inexperienced reviewer that very few cases show any marked improvement by forty-eight hours, so that his advice practically amounts to operation in every case—a line of treatment which possibly he intentionally means to inculcate.

However, the view I then expressed, based on an experience not so extensive as I can now boast of, has only become deepened in conviction, and, I may add further, supported by the opinions of others.

Without any more prefatory remarks, let me now indicate the line of treatment I deem it proper to adopt during the early stage of what may be termed an ordinary acute attack of appendicitis, such as comes before us in practically nine cases out of ten. A case of this character usually presents the following symptoms:—The patient is seized with sudden acute pain, located at first in the neighbourhood of the umbilicus and subsequently, or sometimes even at the outset, in the right iliac fossa; with nausea and vomiting; with tenderness in the region of the appendix; and with some rise of temperature and acceleration of pulse. At a later stage some fulness may be detected in the right iliac fossa.

Now, when a case of this kind is seen within the first twenty-four hours, with, understand, no more serious symptoms than those above indicated, I conceive it to be the medical attendant's first duty to try and get the bowels emptied, and the patient to some extent relieved of pain. To effect the first end, the medical man should himself administer copious warm soap and water enemata, with the object of obtaining a natural evacuation, or failing that, of removing any fæcal material within the rectum and lower colon. He should then direct the hourly administration by mouth of small teaspoonful doses of sulphate of magnesia, dissolved in a couple of wine-glassfuls of warm water. These are repeated until the bowels commence to move. My infirmary sister's experience is that it usually takes from six to eight doses. For the relief of pain, I know of nothing so comforting as the application of large hot linseed poultices applied over the right iliac region. The skin seems to tolerate better the softness and moisture of the meal than that of the usual hot fomentation; while the latter fails to retain its heat and moisture so long. Opium, I think, should at this early stage be avoided under all circumstances. However acute the onset of the pain, it is usually transitory, and nothing should be done likely to mask symptoms the appearance of which may have the most cogent significance. But there is another very strong objection to the employment of opium, and that is that it defeats the very ends our main treatment has in view—it tends to confine the bowels, when above all things we wish to keep them loose and active. As regards diet, the same end is held in view of not giving food that is likely to constipate. Thus, instead of giving simply milk, the patient is encouraged to take whey, chicken broth, meat-jellies, and such like fluid, and easily digested nourishment, which should be continued as long as the patient can be persuaded to take them. By the fourth day the acuteness of the attack has usually subsided, and the case is on the road either to complete recovery or to such local manifestation as may *now* rightly admit of operative intervention being entertained. It would, however, be going beyond the intents of my paper to follow the case outside the limits of the first stages of the disease. I am merely seeking to indicate what I believe to be the best treatment of these cases when we are first called to deal with them in the early acute stage.

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[1] *A Treatise on the Surgery of the Alimentary Canal.*

Let me briefly state, on purely rational grounds, why I believe this early treatment with saline aperients is a sound one. We know that the therapeutical action of the drug is to produce a copious alvine secretion; the intestinal glands are stimulated to excessive action, and we thereby get a very marked depletory effect produced upon the neighbouring parts. Now, this taking place in the immediate vicinity of an inflammatory focus, such as exists in and around the appendix, must lessen very materially the congested condition of the vessels in the part; and we know that nothing so checks the progress of inflammation as the relief of tension and congestion. On the other hand, it is possible to conceive of no condition more favourable for the advance of inflammation than that which would subsist with a loaded cæcum, passively engorged vessels, and an inactive bowel. But it would be possible to push the advantages derived from free intestinal evacuation still further. For it is perfectly reasonable to suppose that, in not a few instances of acute appendicitis, the exciting, if not the sole cause, has been due to the contents of the bowel itself, either that these have been too long retained, or that they contain some irritating or infecting material. To get rid of them, therefore, as soon as possible, is to deal effectively with the very *fons et origi* of the mischief. And even supposing the contents of the bowel are in no sense at fault, we know that when a septic process is in progress in any part of the system, there is no treatment so important as that which places the excretory organs in an effective working condition, and nothing effects this better than getting a free movement of the bowels.

That the application of a hot linseed poultice is not without some remedial effect I am equally convinced. It means something more than the simple relief of pain. The heat and moisture seem to relax tension in the congested area, and the soothing of the peripheral nerves reflexly inhibits the irritability of the deeper ones.

If, now, I am right in all that I say about the *rationale* of this line of treatment in the early stage of the disease, then I believe I am right in concluding that many a case is checked in a progress which might have led to perforation or to abscess formation. I can only add, in support of this belief, that since I have systematically adopted this mode of treatment, and have been able to do so at an early stage in the disease, I have not had one case where subsidence of the symptoms have not soon set in. This does not imply that the case has been cured, for if the acute onset was due to an impacted fæcal concretion, no cure can possibly be effected till the concretion, and possibly the appendix which contains it, has been removed. And this I have occasionally had to do; but how different the operation, in its safety, in its completeness, in its absence of any after ill-effects, when performed during a practically quiescent period, when the whole process has become localised, and all active septic generalising effects are in abeyance.

The teaching I have here set forth contains little that can be deemed purely surgical; indeed, there is nothing in it beyond the power of every medical man to efficiently carry out; and yet the complications which occasionally arise are of such a nature as to require more than ordinary surgical skill. It is the gravity of these complications, the suddenness and often insidiousness with which they arise, as well as the momentous results that follow if immediate action is not taken, that renders it all but imperative the surgeon should be cognisant of the symptoms of the case from the outset. Let me illustrate by a single case what I mean regarding the suddenness with which serious complications may arise, and the value of the case being under the immediate observation of the surgeon. A young man was admitted into the Victoria Infirmary suffering from an attack of appendicitis which was to some extent in the declining state. He was, however, still ill, with raised temperature, and considerable tenderness about the cæcal region. I was alive to the possibility of peritonitis, and feared even perforation. All was arranged for the possible occurrence of such an event. I was called up one evening to see him, when the evidences of perforation were undoubted. Little time was lost in removing him to the theatre, and on opening the abdomen there was no doubt as to the correctness of the diagnosis. The intestines were injected and slightly distended; there was some purulent material in the peritoneal cavity. I need not go into the details of the operation of removal of the appendix or of clearing the abdominal cavity. Suffice it to say that the patient made an absolutely uneventful recovery, and the last I heard of him was that he was the champion tennis player of his club. Now, had there been any delay in the operative treatment, or had I not been fully alive to the possibilities connected with the case from a previous knowledge of the patient's symptoms, it is doubtful whether the result would have been so favourable; for, whatever may be the cause of acute suppurative peritonitis, we now know by ample experience that all our hopes of being successful turn upon the early stage of the disease at which we can perform laparotomy.

That the treatment by copious enemata and saline aperients may even prove efficacious in cases which have advanced beyond the stage of a simple uncomplicated attack is well illustrated by the following case, which I saw in consultation with Dr. Lawson at Rothesay:—The patient was a strong, healthy-looking young man aged 18 years. He was suddenly seized with acute pain in the right iliac region while at his business. When I saw him on the third day after his attack commenced, he was suffering from unmistakable symptoms of general peritonitis, not, I believed, of a perforative character, but as the result of extension of the inflammation from the iliac focus. As circumstances in many ways were against our at once operating, we decided to vigorously push the saline treatment, and proceed to give copious enemata. This we did; and five days later I heard from Dr. Lawson that there had been much improvement. This continued until his perfect recovery, one month after the commencement of his illness. I have only very briefly narrated the case, and not indicated particularly the symptoms which guided me to, I believe, the correct opinion, that peritonitis was simple and not suppurative, the result of perforation. Had the evidences been such as to unmistakably support the latter complication, anything short of laparotomy would have been useless. To temporise with medicines or other conservative measures under such circumstances would be, from a surgical point of view, culpable, because delay could only lessen the chances of the good that might accrue from prompt operative intervention.

While my advocacy for the use of sulphate of magnesia has, in my remarks, so far been limited to the early stages of the disease, I should like, in conclusion, to plead for its continuous adoption for some little time after all acute symptoms have subsided — of course, not pushed to the same extent; but administered now and again so as to prevent anything like fæcal accumulation in the ileo-cæcal region. It may be said that the careful regulation of the diet and proper attention to the bowels are two of the chief factors to consider in the immediate after-treatment of these cases.

My criterion of a perfect cure in any case is the total disappearance of any sense of fulness deep in the iliac fossa; the absence of any tenderness on pressure; and the complete freedom from the smallest sense of discomfort experienced by the patient in active movement. If there is not the absolute absence of one and all of these symptoms, then the patient is not out of danger; and the likelihood is that sooner or later a recurrent attack will take place. My advice to my patients is that, if at the end of a month there is still some indication of lingering mischief, they should allow me to perform appendicectomy. And here I may say I am at one with the most enthusiastic operator. To temporise with such evidence before one is, in my experience, useless, and certainly risky. At no possible time can an operation be so efficiently and satisfactorily carried out as at that period when the disease is practically quiescent.

To sum up, then, the treatment I propose in the early stages of acute appendicitis:—

1. Give copious warm soap and water enemata.
2. Administer hourly until the bowels move freely small teaspoonfuls of sulphate of magnesia dissolved in about two wine-glassfuls of warm water.
3. Apply hot linseed poultices to the right iliac fossa.
4. Feed on whey, chicken tea, meat-jellies, &c.

INTERCELLULAR SALINE INJECTIONS IN CASES OF HÆMORRHAGE AND ECLAMPSIA.[1]

By ROBERT JARDINE, M.D.,
Physician to the Glasgow Maternity Hospital.

INJECTIONS of large quantities of saline solution into the cellular tissues of various parts of the body have proved so beneficial in emergencies arising in midwifery work that I venture to bring the subject before you, as it seems to me the efficacy of such a method of treatment is not sufficiently known. The two conditions in which I have used this method are widely different, viz., in collapse from hæmorrhage and shock, and in cases of eclampsia. In the former the aim is to increase the amount of fluid in the circulation. That it does so is soon made manifest by the improvement in the patient's condition. The pulse soon becomes stronger, and the collapse quickly passes off. In cases of very severe hæmorrhage her life may be saved by it, and in those cases in which she would have recovered without it her convalescence will be much assisted. In the eclampsia cases the aim is to flush the kidneys, and thus rid the system of the poison, whatever it may be, as quickly as possible. The diuretic action has been very marked in all the cases which have recovered, or lived long enough to give it time to act. In all the cases I have used other means of treatment to check the fits, but I shall shortly detail them when giving notes of the cases.

The apparatus required is a very simple one, viz., a medium-sized trocar and canula, 6 feet of small tubing, a glass filler, and a small piece of adhesive plaster. An ordinary trocar and canula will do, but one from an aspirator does much better. This apparatus can be thoroughly sterilised by boiling.

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[1] Read at a meeting of the Glasgow Obstetrical and Gynæcological Society, held on 25th January, 1899.

The saline solution for hæmorrhage cases is made by adding a teaspoonful of common salt to a pint of boiled water. For eclampsia the same amount of equal parts of bicarbonate of potash and common salt is used. The temperature should be 100°.

In all the cases I have injected into the axillæ or under the breasts, but it can be done into any part of the body where the tissues are lax. Aseptic precautions should be taken. A large swelling forms, and there is considerable tension in it. If it is in the axilla the patient will complain of pain and numbness in the arm from pressure on the nerves, but this soon passes off. A pint will be absorbed in from ten to fifteen minutes.

In a number of cases I have transfused directly into a vein, but I am not satisfied that the results have been as good. The intercellular method is much easier, requires no cutting, there is no wound to deal with afterwards, and there is no risk of introducing air into the circulation. Opening a vein and introducing a canula is not always an easy matter, and may take several minutes, while in the intercellular method a few seconds is all that is required before the fluid is entering the tissues and being absorbed. By the direct method the fluid can be run in much more quickly when the canula is in the vein, but I am inclined to think the more gradual increase of the fluid in the circulation by absorption is the better. The absorption takes place through the lymphatic system, and by the time the fluid reaches the circulation it will be in a better condition to mix with the blood than when thrown directly into the vessel.

I shall now give notes of five cases of

HÆMORRHAGE AND SHOCK.

CASE I.—Mrs. M., æt. 33, ii-para. There had been some hæmorrhage the day before admission. The true conjugate was slightly under 4 inches. After the os was fully dilated, the head was allowed to mould for two and a half hours, but it did not engage. It presented R.O.P. As the retraction ring was beginning to be easily felt, she was put under $CHCl_3$ and Milne-Murray's axis-traction forceps applied, but it slipped. The head was then rotated manually, and the blades reapplied. Delivery was effected in the Walcher position with considerable traction. The child was alive, and weighed 9¼ lb.

There was considerable post-partum bleeding, which was checked by 3 grains of ergotin hypodermically and a hot creolin douche (120°). She became very collapsed; the pulse could not be felt at times. Ether and strychnine were both given hypodermically, and brandy by the mouth, and a pint of saline fluid was injected into the areolar tissues of the right axilla. The pulse quickly improved, and in two hours it was 120.

Her recovery was slow, being retarded by some sapræmic absorption.

In this case the hæmorrhage was not very excessive. The collapse was largely due to shock, I believe, from the delivery of such a large child through a small pelvis.

CASE II.—A. J., single, i-para, æt. 22. She was in a very excited condition on admission, and remained so until delivery. The first stage was very tedious from rigidity of the cervix. Three drachm doses of syrup of chloral were given at intervals of quarter of an hour, but without much benefit. Thirty-six hours after admission the os was fully dilated. Under $CHCl_3$ she was delivered slowly with forceps. The cord was wound tightly round the child's neck and body, and although the heart was beating, breathing could not be established. There was a slight amount of bleeding, but nothing of importance. It was checked by ergotin and a hot douche. The pulse, which had all along been rapid, now became imperceptible at times. Hypodermic injections of strychnine and ether were given on two occasions, and a pint of saline injected into the right infra-mammary region. The pulse improved, but she remained collapsed for some hours.

She made a very good recovery.

In this case, as in the first, the collapse was due to shock arising from a long labour in a markedly nervous patient.

CASE III. — Accidental hæmorrhage. Married, vii-para, æt. 33. Seven months pregnant. I delivered this patient at her own home in connection with the out-door department of the hospital. She had been bleeding for sixteen hours. She had been very costive for some time, and while straining at stool the night before a gush of blood came from her. The bleeding had continued ever since. The case was supposed to be one of placenta prævia, and a vaginal plug had been inserted. I found the os fully dilated and the head presenting, but no placenta to be felt. The pulse was very feeble, and her lips blanched. The membranes were ruptured, and forceps applied, and a dead child delivered. Firm pressure over the uterus quickly expelled three or four large clots and the placenta, which had been completely separated. A hot douche checked all post-partum hæmorrhage. Ergotin and ether were given hypodermically, and an injection of saline into the rectum and a pint of the same into the right axilla. Her pulse, which had scarcely been perceptible after delivery, quickly improved.

She made an excellent recovery.

CASE IV.—Mrs. B., æt. 20, i-para, delivered at her own home. She had been in labour for a long time. The head was well moulded, but still above the brim. The diagonal conjugate was 3¼ inches. Assisted by Drs. Black and M'Nair, I delivered with Milne-Murray's axis-traction forceps in the Walcher position. Considerable traction was required. The fœtal heart was beating, but respiration could not be established. There was a partial tear of the perineum and vagina, which was stitched. A hot douche checked all bleeding, but when the nurse was applying the binder post-partum hæmorrhage came on, and the pulse became very feeble. Ergot was given hypodermically and by the mouth, and also ether hypodermically, and I plugged the uterus and vagina with strips of sterilised rag. I afterwards plugged thoroughly with boracic lint as soon as we could get it. A large rectal injection of saline solution was given, and as soon as we could get the apparatus we gave her 1½ pint under each breast and one-fortieth grain strychnine hypodermically. The pulse was barely perceptible, and her face was covered with a cold, clammy sweat. She looked as if she were dying. It was five or six hours before her pulse could be counted. During this time her temperature was 96°. Fourteen hours after delivery I removed the plug and gave her a douche. There was no hæmorrhage.

She made a fairly good recovery. There was a vaginal ulcer, which required touching with pure carbolic.

CASE V.—Accidental hæmorrhage. Mrs. W., x-para, æt. 48, delivered at her home. She was six months pregnant. Bleeding had been going on for several hours, but her pulse was good. The os was sufficiently dilated for version. Delivery was easy. The placenta and a large amount of clot were removed by the hand. The placenta had been nearly completely separated. Ergotin hypodermically and a hot douche checked the hæmorrhage to a large extent, but there was still some oozing from the uterus. I plugged the uterine cavity with iodoform gauze, but had not sufficient to fill it completely. A kite-tailed plug of sterilised wool was packed into the vagina and a firm binder put on. The hæmorrhage seemed controlled, but about two hours later her friends sent a message that she was very weak. Dr. M'Nair found that there had been considerable hæmorrhage. He did not remove the plug, but packed the vagina more firmly, and injected 2 pints of saline into the right infra-mammary region, and stimulated her freely. The pulse was barely perceptible, but half an hour later it could be easily counted. The plug was removed next day.

She made a very good recovery.

This is the only case in which I have found the plug fail to check post-partum hæmorrhage. It failed from the uterus not being thoroughly packed from want of sufficient material.

In all of these cases great benefit was derived from the transfusion. I do not think Case IV would have recovered without it. The others might have done so, but I am firmly convinced that their recoveries were much assisted by it. In two of the cases rectal injections were also used. This is a valuable method if you have no apparatus for injection, but in very bad cases it will fail, as absorption will not be quick enough, and often the rectum will not retain the fluid.

CASES OF ECLAMPSIA.

In my last year's hospital report, published in our *Transactions*, notes of two cases treated by injection will be found.

CASE I.—The first case was practically moribund when admitted, and died undelivered. The injection seemed to do her some good; at all events it strengthened the pulse for a time.

CASE II.—The second case had two fits before and one two hours after delivery, and four on the following day. Bromide, chloral, bromidia, and chloroform were used. On the second day she was passing very little urine, was nearly comatose, with an intermitting pulse of 130. Her condition was growing worse, and seemed hopeless. Twenty minims of tr. veratrum viride (B.P.) were given hypodermically, a pint of saline injected into the right axilla, and a hot pack applied. She quickly became conscious, her pulse-rate fell, and became soft and regular. Next day she passed a large quantity of urine, which could not be collected, as the bowels were moving freely. On the fourth and fifth days she passed 96 oz. and 100 oz., besides what was lost with the motions. The urine was loaded with albumen on admission, but on the fifth day there was only a trace.

She made a good recovery.

CASE III.—Mrs. B., i-para, æt. 28, seven months pregnant. When admitted at 5 P.M. she was in a drowsy condition, alternating with frequent periods of extreme restlessness. She had been having fits hourly since the morning. She had three shortly after admission. Her pulse was of high tension, 130 to 140. Fifteen minims tr. veratrum viride were injected hypodermically, and within half an hour the pulse-rate fell to 110. For three hours it remained slower than this. The os was only slightly dilated. Four hours later the os was in nearly the same condition. Under $CHCl_3$ dilatation was effected by means of Hegar's dilators and the fingers, and the child was delivered with forceps. It was still-born. A pint of saline was injected into the right axilla immediately after delivery. The pulse was now 130, but of low tension. The urine became solid on boiling.

She remained semi-comatose for forty hours after delivery. During all this time there was constant spasmodic movements of the right leg and of both eyeballs. She was fully stimulated with brandy every hour, and given a diuretic and milk. In the first and second twelve hours only 14 oz. and 15 oz. of urine were collected. Early on the morning of the second day she become collapsed. Hypodermics of strychnine and ether were given, and hot fomentations applied over the heart. At this time her pulse was 144, and very feeble. During the third twelve hours 17 oz. of urine were collected. I again injected a pint of saline into the left axilla, with the result that during the next twelve hours she excreted 69 oz. of urine. During each consecutive twelve hours 115 oz., 63 oz., 60 oz., 54 oz., 70 oz., and 60 oz. were collected. Over and above these amounts, a good deal was lost with the motions. The albumen quickly lessened in amount. The first three specimens of urine drawn off were quite milky in appearance from urates, which remained suspended, and did not deposit as urates usually do, although we kept the specimens for several days. This may have been due to the large amount of albumen present. In two other cases I have seen the same condition, but I do not remember ever noticing it in cases which were not injected.

She made a slow recovery.

CASE IV.—Mrs. D., i-para, æt. 22, six months pregnant. She had had headaches daily for about six weeks. Her urine had been high coloured for two months, and scanty for the last month. During the night of 13th May her headache had become very severe, and vomiting had come on. About midday on the 14th she had a fit, and a second one about 2 P.M. She was brought to the hospital about 9 P.M. There was very little œdema of the legs. There were no uterine contractions, but the os admitted one finger. The fœtal heart was audible. The urine became almost solid on boiling. An enema was given, and just as it began to act she was seized with a very violent convulsion. After it passed off she was drowsy, but not unconscious. Her pulse was 130, and of very high tension. I at once gave her a hypodermic of tr. veratrum viride (15 minims), and injected a pint of saline into the right axilla. The pulse-rate fell 15 beats in half an hour, and came down to 90 in a few hours. The bowels were thoroughly cleared with croton oil. She passed a fairly comfortable night, except for headache. She was given some brandy and put on a diuretic mixture and milk. Twelve ounces of urine were collected in the first twelve hours, but a great deal was lost with the motions. It was thick and milky, and did not deposit the urates. There were some hyaline and granular casts, but no blood in it. The albumen had not diminished much.

Next day she was feeling comfortable, and passed over 60 oz. urine. During the next two days she passed 130 oz. and 210 oz. The albumen was lessening. She kept well, and passed large quantities of urine until the 21st, a week from the first seizure, when labour came on, and a dead child was born naturally. It had been alive until the labour came on. She had three doses of chloral to relax the cervix, and $CHCl_3$ was administered towards the end of the second stage.

During the puerperium the diuresis continued, and the albumen disappeared. She made a normal recovery.

CASE V.—Single, i-para, æt. 23; full time; twins. Her previous health had always been good. Six weeks ago her feet and ankles had become swollen, and her face puffy in the mornings. Her father was a twin.

Her pains began on the 16th, and she was seen by two students, who found the os slightly dilated. They gave her an enema, which cleared the bowels thoroughly. On the morning of the 18th two nurses saw her about 9 A.M., and found a child had been born before their arrival. Her friends stated that she had had a fit just as the child was coming into the world. The abdomen was still very large, and a second child was diagnosed. When the resident arrived he found her in a fit, so he gave her $CHCl_3$, and had her removed at once. On admission at 11 A.M., a hypodermic of morphia (half a grain) was given, and the second child delivered by forceps. The child, a male, like the first, was alive. They weighed 6 lb. and 6½ lb. respectively. A large double placenta, partially attached, but with distinct sacs, was expelled along with considerable clot in about ten minutes. It weighed 2½ lb. A very severe post-partum hæmorrhage came on. An intra-uterine douche of sterilised water (116°) was given, and ergotin hypodermically. The pulse became almost imperceptible. Twenty minims of ether and one-fortieth grain of strychnine were given hypodermically, and over 2 pints of saline solution were run into the rectum, and 1½ pint into the right infra-mammary region. The pulse improved, but was still very rapid and weak (175°). A second hypodermic of ether was given, and 2 oz. of brandy by the rectum. The foot of the bed was raised. She was given 2 drs. of brandy by the mouth every hour, and as much milk and soda as she could drink. The pulse gradually improved. Four and a half ounces of urine were drawn off in the evening. It contained blood, and was heavily loaded with albumen.

The following amounts of urine were measured during the next four days, besides what was lost with the motions—viz., 109½ oz., 149½ oz., 92 oz., and 83 oz. Her pulse remained about 120 for a considerable time.

She made a fairly good recovery.

In my clinical remarks during the delivery I said I hoped she would bleed, but I did not count on having to cope with such an alarming hæmorrhage. In my experience of eclampsias, which has been a fairly large one, I have only seen one other case of post-partum hæmorrhage, although many of them have been under $CHCl_3$ for a long time, and the uterus has purposely been left to relax if it would. In this case the twin pregnancy was the cause. I was thankful that morphia had been used instead of veratrum viride: I feel sure the depressing action of the latter would have added a very grave risk, and perhaps have caused her death.

As this is not a paper on eclampsia, I shall not discuss other methods of treatment. With the exception of pilocarpin, I think I have tried every other method; and, on the whole, have been fairly successful. Speaking from the experience of these five cases, and a sixth one which Dr. Black had in the hospital on 1st January, I think I am justified in saying that the results are good. So far, I have seen very few cases recorded, and I hope that the record of these cases will draw attention to what seems to me a very rational form of treatment.

The cause of the convulsions is, undoubtedly, a poison circulating in the blood, which should have been excreted by the kidneys. If we knew what the poison was, we might be able to neutralise its action. The mixture of bicarbonate of potash and common salt may do this, or possibly some other salts may be of more use; but it seems, from the record of these cases that, at all events, this mixture when injected has a most powerful diuretic effect, and in this way the poison is eliminated from the system. It is a method which, I think, might be used in the treatment of kidney mischief, where a rapid diuretic action is required.

I think it should only be used in conjunction with some drug to control the fits, such as chloroform, chloral and bromide, morphia, or tr. veratrum viride. The latter is claimed by some to be a specific, but I cannot agree with them. In one case I gave it a full trial, but it failed. Morphia, in large doses, I am inclined to think the best drug to control the fits.

In future, I intend to give morphia, and transfuse freely at once. The obstetric management of the case will depend on the condition of the patient.

In looking back at these five cases, the first was an utterly hopeless one. Cases II and III were very bad ones, and I was very doubtful of their recoveries. Case IV was not a very severe one, and she might have done all right without injection, but she certainly could not have done better. In Case V the hæmorrhage may have cured the convulsions, but I am pretty sure it would have killed the patient if she had not been transfused. It may be a coincidence, but it is a fact, that of the five other eclampsia cases treated in the hospital during the past year, not a single one survived under the usual methods of treatment.

VAGINAL CŒLIOTOMY.[1]

By JOHN EDGAR, M.A., B.Sc., M.B., F.F.P.S.G.,

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VAGINAL cœliotomy, colpo-cœliotomy, or colpotomy is an operation now so well known that a description of it is unnecessary. Though, many years ago, Thomas and others occasionally removed ovaries *per vaginam*, it is chiefly to Dührssen we owe the present established position of the operation. He first performed it in 1890, but it is only since 1893 that he has carried out its employment systematically. The points to which I desire to draw attention are (1) its advantages in suitable cases over abdominal section, (2) its indications, (3) its contra-indications, and (4) its dangers.

ADVANTAGES OF VAGINAL CŒLIOTOMY IN SUITABLE CASES OVER VENTRAL CŒLIOTOMY.

1. *Comparative freedom from shock and pain.*—This is probably due to the fact that during the operation the peritoneal cavity is little, if at all, exposed, and the bowels are seldom handled or even seen.

2. *Less risk of sepsis.*—It was formerly thought that it was difficult or impossible to render the vagina aseptic, but both bacteriological evidence and clinical experience prove the falsity of this idea. In none of my cases has there been the slightest degree of sepsis following the operation, and all have ended in recovery.

3. *Ability to rise sooner.*—This is because of what I have already mentioned, and also because the wound heals quickly, and there is no risk of hernia.

4. *No visible cicatrix.*—From an æsthetic point of view, this is a decided advantage.

5. *No abdominal belt required.*

6. *Drainage, if required, is at the lowest point.*

7. *Effective plugging* for oozing of blood from torn adhesions, &c., can be applied and reapplied more easily in posterior colpotomy than in abdominal section.

8. *Other vaginal operations* can be performed at the same time *without re-disinfection or changing the patient's posi-*

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[1] Read at a meeting of the Glasgow Medico-Chirurgical Society held on 13th January, 1899.

tion. To illustrate this point I may mention that in one case I performed dilatation and curettage of the uterus, amputation of the cervix, posterior colpotomy, removal of a broad ligament cyst, and perineorrhaphy; and, in another, puncture of several Nabothian cysts, dilatation and curettage of the uterus, anterior colpotomy, left salpingo-oöphorectomy, ignipuncture of the right ovary, vaginal fixation of the uterus, and colpoperineorrhaphy.

Thus, the advantages of the operation are considerable, and in my opinion indisputable. It is a pity, therefore, that the indications are so much more limited than for abdominal section.

INDICATIONS FOR THE OPERATION.

1. *Vaginal fixation of the uterus and shortening of the round ligaments after colpotomy.*—These, like the other modes of operative treatment for retroflexion and prolapse of the uterus, are still *sub judice.* One ought to withhold judgment till the various methods have had further trial. In one class of cases, however, fixation of the uterus is certainly advisable, viz., during cœliotomy for removal of both appendages, if the uterus be retroflexed or prolapsed.

I have performed vaginal fixation six times, and ventral fixation by Czerny's method seven times. All the patients recovered with the exception of one of the latter, on whom abdominal section was performed for a large ruptured dermoid cyst. In none of them has there so far been any recurrence of the uterine displacement. My first case of vaginal fixation was performed at the time when it was thought necessary to obtain sero-fibrous union of the anterior surface of the body of the uterus with the vagina. This patient, unfortunately, became pregnant and died at her confinement. During pregnancy there was no disturbance whatever, but when labour ensued, the anterior wall of the uterus was found not to have expanded properly, and the os was at the promontory, and could not be got to dilate fully. Finding that forceps and version were out of the question, I intended at first to incise the anterior lip and lower uterine segment, but was prevented from doing so by the fact that the placenta was attached to this part. I therefore perforated, and applied the cranioclast, hoping that the os would dilate further, and allow the diminished head through. I failed in effecting my purpose, however, and had to resort to Cæsarean section. The patient did not recover from the shock of the operation, and died within thirty-six hours. I regret now that I attempted craniotomy, instead of proceeding at once to Cæsarean section. In the cases in which I have performed vaginal fixation since then, I have invariably used two fixation sutures of silkworm-gut, one at the level of the internal os, and the other 1½ cm. above this. These I have removed after six weeks. All have done well. One had a normal confinement last September. Dührssen considers that with this plan, which is practised by A. Martin, Rühl, &c., relapses must be frequent. He advocates sero-serous fixation of the uterus in the following manner:—After separating the bladder from the cervix, he opens the utero-vesical pouch by a vertical incision, brings down the fundus uteri, passes a silkworm-gut suture through vaginal wall and peritoneum on one side, then into the anterior uterine wall at the level of the tubes, and finally through peritoneum and vaginal wall on the other side. Before tying this suture, he closes the peritoneal opening with catgut. He claims that in twenty cases, where labour at or near full term ensued after sero-serous fixation, only two cases required operative treatment—viz., in one case forceps, in another craniotomy—and states that in both of these the operation was indicated, not by malposition of the uterus, but by rigidity of the cervix. As regards recurrence of the backward displacement, he says that this took place only in cases in which he employed catgut for fixation of the uterus.

2. *Disease or tumour of the appendages.*—In one case, operated upon in December, 1896, and published in the *Glasgow Medical Journal*, August, 1897, I removed by posterior colpotomy a broad ligament cyst of the size of a cocoanut. I was surprised at the ease with which the removal was effected. Recovery was rapid, and the patient has since remained in good health. In one case I removed a small fibroma of the ovary with good result, and in two cases cystic ovaries, also with good result. One cystic ovary I treated by means of ignipuncture. Lastly, in one case I removed both appendages for the rare condition, salpingitis isthmica nodosa, ascribed by Schauta and Chiari to gonorrhœa. In view of the assertion by Hegar and Alterthum that this condition is due to tuberculosis, it is interesting to note that the family history in my case is extremely tubercular. The patient's father died of consumption, five or six brothers and sisters died in infancy of "water in the head," and one brother died at seven years of age of "tubercular meningitis." After opening the utero-vesical pouch and bringing down the uterus, I found both

appendages considerably matted and adherent to the pelvic wall. The adhesions were broken through with some little difficulty, and the diseased appendages removed. The special point of interest, however, was the presence of a yellow bean-like nodule embedded in each cornu of the uterus, the interstitial portion of the tube. The omentum was firmly adherent to the two nodules and to no other part. I resected them, and the patient made a good recovery, and is still in excellent health. The sections of the nodules show under the microscope caseating areas. (Shown at the meeting.)

In cases where it is proposed to remove a cyst by vaginal cœliotomy, it is important to make sure beforehand that the tumour is unilocular or paucilocular, is not semisolid, and, if large, has no adhesions at the upper portion. If one be in doubt, it is better to open the abdomen in front.

In pyosalpinx, it is recommended by many leading gynæcologists to remove the uterus along with the appendages, partly because the uterus itself in these cases is always diseased, and partly because bisection of the uterus simplifies the removal of the distended and adherent tubes. I have no experience of this operation. In only one case have I been compelled to perform the radical operation on account of pelvic suppuration. This was done by the abdominal route, and was reported in the *Glasgow Medical Journal*, January, 1898. I saw the patient two weeks ago. She had psoriasis, but was in good health and spirits.

3. *Fibro-myomata of the uterus.*—Hitherto, I have always adopted the abdominal route in removing these tumours, unless, of course, in the case of polypi. Since, however, seeing several vaginal hystero-myomectomies by Doyen's method in Veit and Treub's cliniques last September, I have made up my mind to perform the operation whenever I meet with a suitable case. The tumour which I showed to-night was suitable as regards size, but was much too adherent to warrant the vaginal operation.

4. *Cancer of the uterus.*—The question as to the advisability of operation and as to the kind of operation in such cases is too large for me to enter into in this paper. Out of a very large number of cases, I have so far seen only two in which vaginal hysterectomy was in my opinion justifiable. In both the immediate result was successful. One died eight months after operation from so-called recurrence; the other is still alive seven months after operation. I saw her four days ago, and, though there is recurrence, she states that the constant

hæmorrhage, from which she suffered prior to operation, has not returned; whilst the pelvic pains, which were formerly severe, are now slight. She is distinctly stouter and stronger.

5. *Pelvic abscess.*—This, when acute and bulging into the vagina, is best treated by a wide vaginal incision. I have had two such cases. One was a puerperal abscess, which, in July last, I opened and cleared out thoroughly by means of my finger and a douche. Several flaky lumps came away with the pus. Though the sac was larger than a man's fist, the cavity was completely closed in three weeks. I saw the patient yesterday, and found the uterus in good position and freely movable; no thickening, except for a slight cicatrix in the posterior fornix; menstruation normal. The other case had an obscure origin, was of similar size, and was treated in a similar way. In this case the abscess had burst into the rectum on the morning of the operation. During the after-treatment the fæces gave some trouble, but the temperature remained normal. The abscess cavity closed in two weeks, and the recto-vaginal fistula closed in four weeks after the operation. There is now no trace of anything having been wrong.

A third case ruptured into the vagina spontaneously, and did well, but was much slower in healing.

Cases of chronic pelvic suppuration are usually pyosalpinx or suppurating cyst. The best treatment is to remove the offending organ or tumour. In such cases the vaginal route has several advantages over the abdominal—drainage is downwards, not upwards; the matting of intestines and omentum is less disturbed, so keeping the general abdominal cavity shut off; and the pus and the diseased tissue are brought through the vagina instead of through the abdominal cavity. For these reasons the danger of sepsis is less.

6. *Ectopic gestation.*—Cases of pelvic hæmatocele, which bulge into the vagina, should be treated in the same way as pelvic abscess, viz., by a large vaginal incision, thorough evacuation of the contents of the sac, and packing with gauze. During the operation, when my two fingers are in the sac, I always endeavour to palpate the tube bimanually. If it be found to be much enlarged, I think it would be advisable to remove it, though I have never had occasion to do so.

I have treated two cases of pelvic hæmatocele by vaginal incision and drainage, and have assisted Dr. Stirton with thirteen. In my cases the progress toward recovery was rapid and afebrile, and the healing was complete in two or three weeks. Dr. Stirton's cases healed more slowly, because the contents of the sac were not cleared out at the time of operation; but all recovered, except one, which ended fatally on the eighteenth day. I have traced the subsequent history of most of these cases, and have found the condition of the patients satisfactory, not only as regards menstruation, but also as regards pelvic pain and uterine mobility.

I have had other three cases of pelvic hæmatocele which, however, showed signs of absorption, and were treated medically with good result. That all my cases were cases of ectopic gestation, I have little doubt, despite the fact that in none of them had I any positive proof.

Vaginal cœliotomy has been advised also for tubal pregnancy before rupture, and for cases where tubal rupture or abortion has occurred, but no hæmatocele has formed. I have had fourteen such cases, but in all, except one, which was treated medically, I removed the tube by abdominal section. The diagnosis of ectopic pregnancy was confirmed in these cases by the presence of chorionic villi. I have the idea that the alarming arterial hæmorrhage which may ensue when you separate the adhesions, as happened in one of my cases, can be more quickly controlled from above. I may be wrong, as I have no experience in such cases of salpingectomy by the vaginal route. All my cases did well. One has had a normal confinement since, and another is normally pregnant just now. (Since reading this paper, the latter has been confined; labour was natural and easy.)

With regard to extra-uterine pregnancy at mid-term, Dr. Berry Hart, in a paper which was published in the *Scottish Medical and Surgical Journal*, August, 1897, has described four cases treated by extra-peritoneal abdominal section, one of which developed suppurative parotitis, carboluria, and a fæcal fistula after the operation. He states:—"Of course, I quite admit that a vaginal incision into an extra-peritoneal sac, containing only blood, followed by washing out, is excellent treatment; but my difficulty is that if a fœtus and placenta be present, as they may be in an apparent hæmatocele of four months' standing, the arrest of hæmorrhage is very difficult, the tampon infinitely less effective and more dangerous, and the after-treatment much more troublesome." I have had only one such case. This I treated by vaginal incision and removal of fœtus and placenta in October, 1896, and reported in the *Glasgow Medical Journal* for October, 1897. My experience in this case was the exact reverse of what one would expect from Dr. Hart's assertions. The operation lasted ten minutes; the arrest of hæmorrhage was easily obtained; the tampon was so effective that there was absolutely no bleeding afterwards, and recovery was rapid, afebrile, and uneventful. Though at the time of operation the sac reached the umbilicus, and the patient was almost moribund, in four weeks the cavity was closed, and in one week thereafter the patient left the hospital.

She is still in good health.

CONTRA-INDICATION TO VAGINAL CŒLIOTOMY.

The operation is as yet much too recent to dogmatise on this point. Much will depend on the skill and the predilections of the operator; but the limits of the operation ought to be defined as well as possible, because discredit may be cast on a new operation by the selection of unsuitable cases.

Multilocular or semi-solid ovarian cysts, malignant disease of the appendages, large uterine myomata, narrow vagina, and, except in pelvic abscess and hæmatocele, fixation of the uterus, are distinct contra-indications to colpotomy. The question of adhesions is much more difficult, as this depends greatly on the skill and experience of the operator. As a general rule, where the appendages to be removed are adherent to the upper part of the pelvis, it is preferable, unless the radical operation is to be performed, to open the abdomen in front. When the infundibulo-pelvic ligament is tense, it is apt to be torn. In such cases the bleeding from the ovarian artery may require instant removal of the uterus before it can be arrested. Döderlein required to do this four times; Martin, with many more cases, has never required to resort to it.

Tumours which are adherent, unless they are small, had better not be removed *per vaginam*, because of the risk of injuring adherent intestine.

DANGERS OF VAGINAL CŒLIOTOMY.

1. *Hæmorrhage.*—If this be a general oozing, and if interference be necessary, the part can be plugged with iodoform gauze, or, as in my case of ectopic gestation at mid term, with aseptic sponges soaked in hazeline, much more easily and effectively, and with better after-results, than through a ventral opening. In arterial hæmorrhage, whether from the ovarian artery or, as in one of my cases, from a branch of the uterine artery, the bleeding point must be

sought for and secured. This, as I have already indicated, may at times be difficult.

2. *Injury to bladder, ureters, or intestine.*—Several such cases have been reported by Baumm, Olshausen, &c. Apart from the use of clamps, such injuries are generally the result of separation of extensive adhesions. When seen, they ought to be repaired at once.

In conclusion, I regard vaginal cœliotomy, when performed in suitable cases, as a distinct advance in operative treatment. What is required is a definite pronouncement regarding its limitations. This only further experience, carefully reported, will enable us to give.

ONE HUNDRED AND THIRTY-EIGHT CONSECUTIVE CASES OF ABDOMINAL SURGERY.

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THESE operations were performed by me in the British Hospital during 1896. As possibly some of them may be of interest, and wishing to economise valuable space, I tabulate one hundred and thirty-one cases and give the notes, with remarks, of seven which may not be of common occurrence.

I wish to express my gratitude to the junior medical officer, Dr. Halahan, and to nurses Taylor, Wagner, Campbell, and Neely for their incessant care and attention to the aseptic preparation of their patients, and to the ever important and indispensable after-treatment; also, I wish to record my appreciation of the services rendered by my chloroformist, Mr. Luck, and my operating assistant, Simmons.

It may not be extraneous to the object of this paper if I mention that my operating staff consists of a male nurse, who acts as my assistant, and is thoroughly versed in the arts of asepsis, steadiness, and obedience; a female nurse who attends solely to the disinfection of instruments and preparation of sponges, towels, ligatures, &c. (*à la* Lockwood); a chloroformist; a clinical clerk, whose sole duty is to take notes; and a porter who performs any septic manipulations which may be necessary.

Since this limitation of assistants has been adopted, results have improved, and post-operative anxiety has appreciably diminished.

1. *Fibrous stricture of pylorus—Gastro-enterostomy—Recovery.*—W. M., aged 29, admitted to hospital on 8th October. *History.*—Very strong and healthy until 1891, when he commenced to feel slight pain in epigastric region, with flatulence after eating, which he attributed to having meals at irregular times, and bolting his food: "I was so much occupied with football and games that I paid no attention to how or when I took food, but I used to have a ferocious appetite." During 1891 he was troubled very much with constipation, and occasionally vomited.

1892.—Pains became more frequent, and he now suffered from pain in back. He got slightly thinner, and his doctor frequently gave him bismuth, which used to allay the pain.

1893.—Vomiting and pain occurred daily. He lost flesh, and was kept in bed for a month, and treated for "inflammation of the kidneys," which diagnosis he now says was "absurd," for the symptoms—pain in epigastrium and back, vomiting, flatulence, loss of flesh, and constipation—continued just the same.

1894.—There was no improvement; in fact, the symptoms became more intensified.

1895.—He consulted Dr. C. Muirhead, of Edinburgh, who, after a most careful examination, told him that he had dilatation of the stomach, and required lavage with Condy's lotion every night for a week, then twice a week, &c. In a short time he found that he could not sleep at night unless he washed out his stomach: "This I got into the habit of doing as easily as I could smoke a pipe."

1896.—He came to South America. During the voyage he felt slightly better, but had constantly to use stomach-tube, and could only eat sparingly, as pain and distension followed anything approaching a full meal.

1897.—All the symptoms became exaggerated, and he was extremely emaciated.

On admission nothing could be found by external examination to account for this tale of woe, excepting distinct tenderness on palpation over M'Burney's point.

Exploratory cœliotomy was performed on 9th October by an oblique incision over appendix. This was found twisted by the largest appendical mesentery which I have ever seen. The appendix was removed. It contained four fæcal concretions, and the mucous membrane was inflamed and corded at the site of torsion.

On passing the hand upwards a hard tumefaction was felt, and it was found necessary to make a vertical incision in order to expose it. It turned out to be a large hypertrophied fibrous stricture of the pylorus, about 4 inches in length and 5 inches in circumference. On invaginating stomach wall on tip of finger, the pyloric opening was felt to be about the diameter of a penholder.

The abdominal wound was closed, and further operative measures were deferred until the patient and his relatives could be apprised of the gravity of the condition, and the operation necessary for its relief.

On 13th November gastro-enterostomy was performed by Mr. Barker's most excellent method; the operation lasted an hour and a half. Four hour rectal feeding was instituted immediately, and nothing but sips of hot water given by the mouth for the first two days, a little milk and soda on third day, and solid food was commenced on the seventh. The wound healed by first intention, and no abdominal symptoms appeared. He was allowed out of bed on the twenty-first day, and discharged on 11th December, vomiting, flatulence, and pains having completely disappeared.

The only trouble experienced during convalescence was diarrhœa two or three times a day, which I attributed to the irritation produced by seven days' constant rectal feeding. However, an occasional ten-drop dose of tinct. opii controlled the tendency, and for four days before he left the hospital his motions were formed, normal in colour, and contained no undigested food particles.

He is still very emaciated, but he says, "I am daily getting stronger, and feel a new man."

The after-history of this case will be of great interest, and I will not fail to publish it.

On account of the great hypertrophy, gastro-enterostomy was adopted in preference to Loreta's operation or pyloroplasty.

2. *Pelvic hydatid—Operation—Recovery.*—Within the short space of three months I had to perform cœliotomy three times on Mrs. D. for hydatid cysts of the ovary and omentum. At the third operation, after enucleating an omental hydatid, I found another cyst about the size of a cocoanut, deeply embedded in pelvis, and adherent to uterus, left broad ligament and intestines. Enucleation was attempted, but owing to the insuperable

nature of the intestinal adhesions it had to be abandoned. The cyst was emptied by a trocar and cannula, and opening enlarged. Now, a serious difficulty occurred, for the cyst wall was so bound down that I could not suture it to parietal wound. Luckily for the patient, Mr. Mayo Robson's plan of bringing down the parietal peritoneum suggested itself, and with handled needles sutures were passed, and marsupialisation effected. The endocyst was removed by irrigation, and a large drainage-tube inserted. Patient was discharged cured six weeks later.

If I should meet with such a case again, I would not hesitate to close the abdominal wound and attack the cyst, as recommended by Mr. Reginald Harrison, *per vaginam.*

3. *Suppurating ovarian cyst—Operation—Recovery.*—Mrs. H., aged 35, five children, noticed a swelling in left lower abdomen for eight months previous to admission to hospital. Four months ago she consulted a doctor, who said she had "dropsy," and he tapped her. Two months later "the dropsy came back," and the doctor repeated the tapping. A few days later she complained of shivering, fever, and belly becoming tender. These symptoms gradually increased in intensity, she became very emaciated, and, as her case became desperate, she was sent to hospital.

Examination.—Temperature, 102°; pulse, 120; respirations, 34; great thirst; tongue furred and dry; very emaciated; abdomen enormously distended, very tender, with great enlargement of superficial veins. No tympanitic note could be detected in any part, not even in loins on change of posture.

Vaginal examination.—Uterus was partially prolapsed, normal in size, movable, some thickening felt in left broad ligament, distinct fluctuation in Douglas' pouch. Defæcation and micturition painful. Urine normal.

Past history.—Had good confinenents; never had any serious disease; menses regular, but latterly painful.

Operation.—A 4 inch median incision was made between umbilicus and pubes. Peritoneum was so inflamed and adherent to parietal wall that it could not be differentiated, so an incision was made into swelling, and a bucketful of grumous purulent jelly removed. On introducing hand, an enormous ovarian cyst was found adherent to liver, spleen, uterus, and to the whole anterior abdominal wall. It practically occupied the whole peritoneal cavity, and on palpating the left broad ligament through cyst wall a distinct hard mass was felt which doubtless corresponded to the pedicle.

To attempt such a colossal separation of adhesions in such a sea of pus was out of the question. Large rolls of gauze were packed into the interior of cyst, and a counter opening was made below lower border of liver, into which a large drainage-tube was inserted. Gauze packing was continued for twenty-eight days, and she was discharged cured a month afterwards. Six months later she reported that she was "as well as ever."

This case is doubtless another black mark in the career of the tapping apparatus.

4. *Serous cyst of mesentery—Operation—Recovery.*—Miss F., aged 18, entered hospital on account of a swelling in left upper abdomen. On examination, a deep-seated, painless, fluctuating, and mobile tumour was felt beneath and internal to left costal recession. As its position and direction corresponded to an enlarged spleen (notch not felt), hydatid of this organ was diagnosed.

Her general health was excellent, and there was nothing to record in her past history, except that about two years ago a horse kicked her in the abdomen. At the time she paid no attention to such a triviality, for, as she stated, "all my horses are buck-jumpers, and I frequently get thrown off."

A year afterwards she noticed a small lump, but did not consider it of sufficient importance to inform her parents. It gradually and painlessly increased in size, and ten months later she was brought to hospital.

Operation.—A 3 inch incision was made in left semilunar line. On introducing hand the spleen was felt normal in size and place, but a tense fluctuating swelling, about the size of an ostrich egg, was found between layers of meso-colon. The colon was drawn downwards and outwards, a trocar inserted, and 10 oz. of clear, yellow, albuminous fluid removed. The trocar opening was then enlarged and edges united to parietal wound, and a medium-sized drainage-tube inserted. Patient was discharged cured on the twenty-eighth day.

If an exploring needle had been used in this case it undoubtedly would have pierced the colon.

5. *Hydatid of spleen—Operation—Recovery.*—Mrs. H., aged 38, had noticed a slowly enlarging "lump" in left upper abdomen for a year previous to admission to hospital, which caused no constitutional disturbance.

On examination, a tense, fluctuating, painless, and slightly movable tumour was found in left hypochondrium; dull on percussion; direction, downwards and inwards; and some

No. of Cases.	Disease.	Operation.	Remarks.	Immediate Result of Operation.
2	Abscess of liver.	Transthoracic hepatotomy with drainage.	In one there was a recent history of dysentery.	Cured.
12	Appendicitis, catarrhal.	M'Burney's incision and division of muscular fibres; ligation with currettage of stump.	These cases were all operated on as soon as condition was diagnosed. In ten cases the mucous membrane was found inflamed, and all contained fæcal concretions.	Cured.
3	Appendicitis, suppurative.	Same operation; abscess cavities packed with iodoform gauze; appendix removed in each.	In each instance the pus was localised.	Cured.
4	Appendicitis, ulcerative.	Same operation.	Two contained gall-stones and two fæcal concretions.	Cured.
2	Carcinoma uteri.	Complete vaginal hysterectomy; broad ligaments ligated with silk; vagina packed with iodoform.	In one case the growth had slightly extended into ligament, and recurrence took place three months later. Still alive.	Cured.
1	Cylindroma recti.	Left inguinal colotomy.	Growth was situated in upper portion of rectum, and had invaded adjoining parts.	Cured.
1	Carcinoma recti.	Excision by circular incision.	As growth had slightly invaded post-vaginal wall, the latter was freely excised.	Cured.
2	Fibroids, uterine.	Complete vaginal hysterectomy and complete abdominal hysterectomy.	The abdominal hysterectomy was followed by general peritonitis and death on sixth day. Oozing followed operation, and, unfortunately, I trusted to vaginal drainage instead of anterior.	One cured; one died.
1	Fistula, urethral perineal.	Suprapubic cystotomy and drainage.	Most obstinate fistula following extravasation of urine, which persisted in spite of perineal bladder drainage and excision of fistulous tracts.	Cured.
40	Hernia, inguinal.	Halsted's operation.	In thirty-five cases orchitis followed; no recurrence has taken place.	Cured.
18	Hernia, inguinal.	Author's operation.	Orchitis did not supervene in a single case; no recurrence.	Cured.
1	Hernia, inguinal, Strangulated.	Halsted's operation; constriction divided from above, and radical cure performed.	Strangulation of twelve hours' duration; gut purple, but had not lost its lustre.	Cured.
1	Hernia, umbilical.	Excision of an ellipse of skin of large portion of omentum and of sac.	A very fat woman with a large adherent epiplocele, and a very narrow opening.	Cured.
1	Hernia, ventral.	Excision of a large ellipse of skin, and 7 inches by 3 inches of protruding parietal peritoneum; wound closed in layers by continuous catgut sutures.	This hernia occurred in a case of complete abdominal hysterectomy operated on by me in previous year.	Cured.

8	Hydatid of liver.	Cœliotomy and Lindemann's operation. In two cases a large portion of cyst wall was excised.	Two contained an enormous number of daughter cysts.	Cured.
2	Hydatid of omentum.	Cœliotomy and enucleation.	Small, tense, painless, fluctuating, and movable tumours.	Cured.
1	Hydatid of ovary.	Oöphorectomy.	A tumour, about the size of a melon, growing from posterior border of ovary.	Cured.
1	Movable kidney.	Nephropexy; capsule divided, and three buried silkworm-gut sutures inserted.	A fortnight after operation a tumour suddenly appeared. Hydronephrosis. In twenty-four hours it had vanished.	Cured.
1	Ovary, cystic.	Oöphorectomy.	Constant pain complained of for two years, which disappeared after operation.	Cured.
10	Ovarian tumours.	Ovariotomy.	In one case the tumour was sarcomatous, and recurrence followed in lung two months later. Died a month afterwards.	Cured.
8	Prolapse of uterus.	Ventro-fixation.	In each case excision of cervix and posterior or anterior colporrhaphy were first performed.	Cured.
1	Pyonephrosis.	Lumbar nephrectomy.	Patient had two nephrolithotomies performed in Manchester; twenty-six stones were in all removed. As pain and pyæmia continued, nephrectomy was performed, and pelvis was found greatly dilated; contained an ounce of pus and three small calculi.	Cured.
1	Pyosalpinx, double.	Extirpation of both ovaries with pus-distended tubes, the latter were both about the size of a tennis ball; drainage.	Patient was a drunkard. Operation most difficult owing to deep pelvic adhesions; hæmorrhage very troublesome; double broncho-pneumonia supervened, and after a great struggle she recovered.	Cured.
1	Prolapse of rectum.	Complete excision by circular separation at canal margin; 6 inches of rectum were removed, and upper cut surface sutured to skin.	This condition was brought about by neglected hæmorrhoids; there was considerable hæmorrhage, and great shock followed. Four months later he reported that he had good control.	Cured.
5	Retroflexion of uterus.	Ventro-fixation.	In three cases there were pelvic adhesions.	Cured.
1	Sarcoma, kidney.	Lumbar nephrectomy.	In a man, aged 26. Tumour weighed 4 lb., and was easily removed; no adhesions. No recurrence within eight months.	Cured.
1	Suppurating hydatid liver.	Lindemann's operation; 3 pints of pus with necrosing endocyst; no adhesions.	History of loss of flesh, nocturnal fever, and tenderness for four months previous to operation.	Cured.
1	Tubal gestation (right).	Removal of ovary with distended tube.	History of irregular menses; uterus enlarged; clots and pieces of membrane passed. The tube was about the size of an orange, contained 4 oz. of blood and a large clot.	Cured.

downward inspiratory movement. Diagnosis, hydatid of spleen.

Chloroform having been administered for operation, it was found that tumour could be moved freely in all directions; in fact, there was not the slightest difficulty in jamming it into right iliac fossa. Consequently the diagnosis was altered to hydatid of omentum.

The abdomen was opened in left semilunar line, and the swelling at once showed itself to be an enlarged spleen. On examining inferior border it was seen that the splenic tissue had payed out, and a white cyst wall presented. This site was selected for Lindemann's operation, and a pint of hydatid fluid and endocyst were removed. The spleen had been literally converted into a hydatid bag, and its suspensory ligament was enormously elongated. An uninterrupted recovery ensued.

The interesting feature in this case was the extraordinary mobility of the affected organ.

6. *Cancer of pancreas obstructing common bile-duct—Cholecysto-colostomy—Death.*—B. A., aged 30, railway employee, was admitted to hospital on 20th November. *History.*—Four months ago he was seized with stabbing pain and tenderness in right hypochondrium, with vomiting. A few days later skin became yellow, urine dark, and motions light in colour. No rigors, sweats, or fever.

After three weeks' treatment by a local doctor, the jaundice disappeared, urine and motions became normal in colour, and no gall-stones were found in fæces. Notwithstanding liberal dietary and a fair appetite he continued losing flesh. Eleven weeks later pain and jaundice returned. This time the pain was dull and continuous, without vomiting, fever, or rigors. As the jaundice gradually became more intensified, he was taken to hospital five weeks after onset of second attack.

Examination.—Patient was deeply jaundiced; urine dark green, full of bile and albumen. Temperature, 98·6°. Normal liver, dulness greatly diminished, slight tenderness on palpating epigastrium, no fulness or swelling could be detected about normal position of gall-bladder or in epigastrium, motions were of pipeclay colour, and he was well nourished.

The diagnosis lay between a gall-stone plugging common duct, and cancer of head of pancreas. Against the former there was absence of fever, rigors, gall-stones in fæces, and severe pain, and the "loss of flesh" during interval pointed to cancer; against the latter there was the patient's age, jaundice without tumour, absence of fatty stools, and the fact that the primary obstruction had subsided.

Olive oil in 2 oz. doses was given every three hours, milk diet, and the bowels were kept freely open by magnesia sulphatis. As no improvement followed after seven days of this treatment, an exploratory operation was determined on, and for the two days previous to operation 20 gr. doses of calcium chloride were given every four hours, as recommended by Mr. Mayo Robson.

On 30th November the abdomen was opened by Morrison's incision, and the liver was so small and contracted that it was necessary to pass the whole hand up under ribs before its lower border could be felt. On opening wound by Maunsell's retractor, the gall-bladder was seen almost out of reach. It was enlarged, and appeared somewhat like a small cucumber. On examining the duodenum the hand came on a mass of cancer about the size of a cricket ball, evidently pancreatic, for it lay posterior to stomach, and was found adherent to this organ and to all the small intestines in the vicinity. At this stage I had to chose between (1) immediately closing parietal wound; (2) cholecystotomy, which would be nigh impossible, so high up was the gall-bladder situated; and (3) cholecysto-colostomy. It seemed much more feasible to attach colon to gall-bladder than to unite latter to parietal peritoneum. The first would have been the wisest course, but, foolishly, I adopted the last.

The gall-bladder was aspirated, and 8 oz. of bile removed. The trocar opening was enlarged by scissors, and Murphy's suture inserted. This was a most difficult task, for, after emptying the gall-bladder, it retracted further upwards from the field of operation. One half of a Murphy's button was then inserted, suture drawn tight, a long forceps attached and handed to an assistant. The transverse colon was next clamped by Murphy's clamps, an incision made into it at a convenient site, and suture and other half of button inserted. Now came the grand difficulty of the operation, *i.e.*, how to grasp gall-bladder so as to close the button. However, by patient and gentle traction the parts were brought into opposition, and, just at the critical moment before the click of button took place, to my utter dismay, the gall-bladder wound tore open. Of course, nothing remained but to remove suture, sew up tear in gall-bladder, and insert another suture—a most trying ordeal. At last, thanks to the steady hand of my operating assistant (Simmons) and nurse Neely, the button was closed. The abdomen was flushed out with warm 1 in

500 corrosive sublimate, rolls of gauze inserted for drainage, and wounds partially closed.

Great shock ensued, and despite all our efforts no reaction could be brought about, and he died on the following morning.

There was very little blood lost during the operation, and this appears to confirm Mr. Mayo Robson's suggestion as to the use of calcii chloride in operations where jaundice is present.

Post-mortem.—The gall-bladder was found well united to colon, without any trace of kinking or leakage. The pancreas was a mass of cancer, adherent to posterior wall of stomach, duodenum, and jejunum. The common bile-duct was enveloped in the growth, and completely occluded, but, curious to say, the pancreatic duct was patent, a probe readily passing through it. As the tail of pancreas had escaped, there can be no doubt that this was a case of primary cancer of head of pancreas. A few ounces of blood were found in abdominal cavity, but no bile.

7. *Appendicitis and salpingitis—Operation—Recovery.*—Mrs. S., aged 36, was admitted to hospital in June suffering from loss of flesh; furred tongue; temperature, 101°; tenderness particularly marked in right lower abdomen; constant metrorrhagia; painful micturition and constipation. On vaginal examination, uterus was normal in size, retroverted and fixed, and right broad ligament very thickened and painful to palpate.

History.—Perfectly healthy until four months ago, when she was suddenly attacked with violent pain in right inguinal and hypogastric regions, and vomiting which lasted for three days, obstinate constipation, fever, shivering and sweating. Nocturnal fever continued. Menstruation became irregular; as she stated, "I have been unwell for four months." She had never passed any clots or pieces of membrane, and breasts remained normal. Diagnosis, salpingitis.

Operation.—The abdomen was opened in left semilunar line. On passing the finger into the pelvis the uterus was felt firmly bound down to sacrum, and the right ovary, tube, and broad ligament were one thickened adherent mass. On separating the ligamental adhesions the vermiform appendix was found ulcerated and slightly necrosed in parts, forming portion of above conglomeration, and its free extremity was glued to uterus. With considerable difficulty the diseased appendix was isolated without rupture, traced back to cæcum, ligated, and removed. The uterus was next forced from its posterior adhesions, and, finally, the pelvic adhesions of ovary and tube were broken down, and as the appendages did not appear structurably altered they were retained. Considerable hæmorrhage followed the separation of these adhesions, particularly so since it had to be done by the finger tips at the bottom of a deep hole far removed from the eyesight. Notwithstanding prolonged sponge packing, the oozing continued, and a large rubber drainage-tube was inserted into pelvis, and a roll of gauze passed down through tube. As the patient was considerably collapsed, rectal alimentation was at once begun, and my assistant, Dr. Halahan, very kindly changed the gauze drain frequently during the following twenty-four hours.

An uneventful recovery followed. The uterine hæmorrhage ceased on the day following operation, menses became regular, micturition normal, bowels acted spontaneously, and she was discharged cured six weeks later. When seen three months later she was quite well.

CURRENT TOPICS.

Memorial to Professor Joseph Coats, M.D.—A fortnight ago a meeting was held, at which it was resolved to raise a fund for a Memorial to the late Dr. Joseph Coats, and a proposal was adopted that it should take the form of a university prize or scholarship in connection with pathology. Many of the late Professor's colleagues, assistants, and numerous pupils will no doubt be pleased to learn of this endeavour to commemorate his name. The members of the medical profession estimate very highly his scientific work, and are best able to appreciate the services he has rendered to the progress of medicine and surgery; while his friends outside of the profession will no doubt be glad of an opportunity of testifying to their high estimate of his character as a man. To carry out the proposed plan, a sum of at least £1,200 will be required. Circulars are being issued calling for subscriptions, but as many of Dr. Coats's friends and former pupils, who are widely scattered, may not be reached in this way, those who are managing the fund desire to intimate that contributions will be received and acknowledged by Dr. David Newman, Hon. Secretary, 18 Woodside Place, Glasgow, or Mr. James J. MacLehose, 61 St. Vincent Street, Glasgow.

ARMY MEDICAL DEPARTMENT.—The following is a list of the successful candidates for commissions in the Royal Army Medical Corps at the examination held in London on 3rd February, 1899 (arranged in the order of merit):—G. G. Delap, F. Warren, R. A. Cunningham, V. J. Crawford, F. J. Palmer, O. Challis, H. Simson, T. G. N. Stokes, S. G. Butler, G. H. Irvine, W. A. Woodside, W. R. Blackwell, C. C. Murison, H. B. Onraet, P. H. Falkner, H. F. Hart, L. F. F. Winslow, H. H. Norman, A. Chopping, J. J. W. Prescott, O. W. A. Elsner, A. L. A. Webb, E. E. Ellery, and H. M. Nicholls.

We publish the papers in medicine and pathology and surgery:—

MEDICINE AND PATHOLOGY.

(PROFESSOR M'CALL ANDERSON, M.D.)

1. (*a*) What points in the history and symptomatology of pneumonia—apart from physical signs (percussion, auscultation, &c.)—would enable you to diagnose that disease?

(*b*) Give, *in tabular form*, the differences in the physical signs in pneumonia in the stage of consolidation, and in fluid effusion into the left pleura.

2. A labourer, æt. 45, was admitted into hospital on 4th September, 1898. Four years previous to this he injured his right elbow-joint, which led to bone disease with protracted suppuration. On admission it was found that several of the internal organs were affected. What was the probable nature of this disease? Enumerate the symptoms pertaining to each of these organs, and, in the event of a fatal issue, state in detail what you would find *post-mortem*.

3. Under what circumstances is cerebral disease likely to be followed by descending sclerosis? Indicate the path which the sclerosis follows, and give a sketch of the superadded symptoms indicative of that complication.

4. How would you treat typical cases of—

(*a*) Diabetes mellitus?
(*b*) The night sweats of phthisis?
(*c*) An obstinate specific ulceration of the tongue of old standing.

SURGERY.

(SIR WILLIAM MAC CORMAC, BART., K.C.V.O.)

1. Give the pathology, symptoms, and treatment of rickets. What changes, immediate and remote, does it produce in a long bone, the femur for instance?

2. Describe a case of acute traumatic tetanus. Give the symptoms, pathology, treatment, and prognosis of the disease.

3. Give the causes, complications, and treatment of entropion.

4. What abnormal conditions may be associated with an imperfect descent of the testis? Give their differential diagnosis, and briefly indicate the treatment of each.

"DR. THERNE," BY H. RIDER HAGGARD.—At a meeting of the Executive Committee of the Jenner Society held in Gloucester on 22nd December, 1898—G. E. Lloyd-Baker, Esq., in the chair—the following resolution was passed unanimously:—

"The members of the Executive Committee of the Jenner Society desire to express their appreciation of the recognition of the work of the Society by Mr. Rider Haggard, in the dedication to its members of his powerful story, *Dr. Therne.*

"They also desire to assure Mr. Rider Haggard of their warm sympathy with his just and vigorous protest against the dangerous agitation carried on against vaccination, by which many thousands of persons have been misled, and have been induced to deprive their children of the only certain protection against a virulent and fatal disease.

"The committee congratulate Mr. Haggard upon his uncompromising exposure of this evil, and trust his book may have a large circulation, as being calculated to lead a considerable section of the public, who cannot be otherwise interested in the subject, to give serious consideration to a matter of urgent and overwhelming importance, affecting, as it does, the health and lives of multitudes of hapless children who may be exposed to the infection of small-pox, without the protection afforded by vaccination."

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—The following gentlemen having passed the requisite examination were, on 15th February, 1899, duly elected Fellows of the College:—Charles Edward Douglas, M.B., C.M., and M.D. Edin., Winthank House, Cupar, Fife; Charles Wright Edwards, M.R.C.S. Eng., L.R.C.P. Lond., Sackville House, East Grimstead, Sussex; Hugh Tener Galbraith, L.R.C.S.E., &c., Durban, Natal; Carel Hendrik Kruger, M.B., C.M. Edin., 13 Glengyle Terrace, Edinburgh; and Ellis Pearson, L.R.C.S.E., &c., 46 Carlton Road, Birkenhead.

The gold medal presented to the College by Colonel William Lorimer Bathgate in memory of his late father, William M'Phune Bathgate, F.R.C.S.E., Lecturer on Materia Medica in the Extra-Academical School, has been awarded, after the annual competitive written examination in materia medica, to Mr. George Robertson, 53 High Street, Dunfermline.

TUBERCULOSIS IN DAIRY STOCK.—The Royal Agricultural Society of England have issued the following recommendations, which we think worthy of bringing under the notice of our readers:—

"With the object of assisting dairy farmers in meeting the requirements of sanitary authorities under the present circumstances, the following suggestions are offered.

"It is a matter of certainty that a notable quantity of milk which is sold to the public contains tubercle bacilli, and persons who drink it in an uncooked condition incur some risk of infection.

"In a small proportion of cases tubercle bacilli may be detected in milk by microscopic examination, and such milk is always highly dangerous.

"It ought to be clearly understood, however, that failure to detect the bacilli by microscopic examination of milk is not reliable evidence that such milk is free from the germs of tuberculosis.

"Tuberculosis, known also as consumption, wasting, and pining, is a contagious disease, and is spread by the introduction of the tubercle bacilli into the bodies of healthy animals along with the food or drink, and in other ways. Diseased cattle eject bacilli in coughing; also in the discharge from the mouth and nose, and in the manure.

"The disease in the advanced stage may be detected by an expert from the outward symptoms, but in the majority of instances there are no characteristic signs, and the tuberculin test is the only safe and nearly certain method of discovering the existence of tubercle, even when no indications are apparent.

"When it is intended to employ the test, the owner of the cattle should apply to the Principal of the Royal Veterinary College, Camden Town, London, N.W., giving the name of his usual veterinary adviser, to whom printed instructions will be sent. If desired, the name of a veterinary surgeon in the district will be suggested.

"Animals which react to the test, thus indicating that they are affected with tuberculosis, should be separated from those which do not react; a slight partition covered with tarred felt, to divide a shed into two parts, will suffice.

"*Hints as to the means of preventing the spreading of the disease.*—All animals which are affected with diarrhœa, cough, or wasting, should be removed from contact with other animals.

"Overcrowding, imperfect ventilation, dirt, and darkness favour the spreading of the disease.

"An open-air life is the most desirable for milch cows, and under such conditions tuberculosis shows very little tendency to spread. The cows should not be allowed to feed out of troughs in the pastures, but be taken into the sheds to have their ordinary manger-food.

"The cleansing and disinfection of cow-sheds is essential, and the free use of water is a most important part of the process. Sweeping and dry brushing, and the raising of dust, should be avoided.

"Tubercular disease of the udder ought always to be suspected when a painless hard lump, slowly enlarging, can be detected in one or more of the quarters.

"As to the course which the owner should take with regard to the reacting cows, it can only be said that the sooner they are sent to the butcher the better. As it is impossible to determine at what particular moment the udder may be invaded, and the milk become infected, a strict regard to sanitary laws would exclude the milk of tuberculous cows as unsafe for food, unless it had been effectually sterilised before distribution or use.

"That the decided effort which is now being made to arrest the spreading of consumption and other forms of tuberculosis in man will gradually lead to the enforcement of strict precautions against the sale of milk from tuberculous cows cannot be doubted; and it is of the utmost importance that dairymen should realise the necessity of doing everything in their power to eradicate tuberculosis from their herds. It has been proved that much can be done in this direction by the owner, with the advice and assistance of his veterinary adviser."

Most medical men will agree that these regulations are wise, and calculated to help on the effort now being made to stamp out tuberculosis. In Glasgow at present we understand that steps have been taken by the Medico-Chirurgical Society to ascertain the mind of the medical profession on the subject of forming a branch of the National Association for the Prevention of Tuberculosis in Glasgow.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1898-99.

MEETING VI.—16TH DECEMBER, 1898.

The President, DR. G. S. MIDDLETON, *in the Chair.*

I. — MULTIPLE TUBERCULAR TUMOURS OF THE BRAIN — ENLARGEMENT OF THE RIGHT CRUS CEREBRI — GREAT ATROPHY OF THE RIGHT THIRD NERVE.

BY DR. J. LINDSAY STEVEN.

Dr. J. Lindsay Steven's notes of this case will be found in our issue for February, 1899, at p. 125.

Dr. Middleton said that as many tumours might be found as in this case, and yet there might be no head symptoms at all. He mentioned a case in support of his statement.

II. — TWO CASES ILLUSTRATING THE DURATION OF GENERAL PERITONITIS AFTER THE RUPTURE OF A PERFORATING ULCER OF THE STOMACH AND OF THE DUODENUM RESPECTIVELY.

BY DR. J. LINDSAY STEVEN.

Dr. J. Lindsay Steven's paper will be found as an original article in our issue for February, 1899, at p. 87.

III.—RUPTURED GASTRIC ULCER—SUTURE.

BY DR. RUTHERFURD.

The specimen showed a healed puckered area in the anterior wall of the stomach close to the lesser curvature, and within 2 inches of the lesser curvature; extending downwards from this on the posterior wall was an ulcerated surface about an inch in diameter, in which another perforation had taken place.

The patient was a young woman of 26, who had for the last eight or nine years suffered from pain after meals, relieved by vomiting. In 1890, and again in the spring of 1898, she was under treatment in the Royal Infirmary on account of this, on the latter occasion under the care of Dr. Lindsay Steven. There was never any hæmatemesis until about ten days before the occurrence of the perforation, during which time, although continuing at her work, she would seem to have vomited a good deal of blood.

On the 8th September, about 1 P.M., at the end of an attack of vomiting, she suddenly felt pain in the epigastrium, which gradually became more wide-spread, and she passed into a state of collapse. This was somewhat relieved by the administration of 40 minims of laudanum about 3·30 P.M. She was thereafter sent into the Royal Infirmary under the care of Dr. W. K. Hunter, at whose request Dr. Rutherfurd saw the patient, and proceeded to operation at 9 P.M. (eight hours after the onset of symptoms).

A rather scanty extravasation of watery stomach contents was found, with some reddening of the peritoneal surface, in the upper half of the abdomen. The rupture, which admitted the tip of the little finger, was with difficulty brought within reach, partly because of its position, close to the lesser curvature and about 2 inches from the cardia, but also from the existence of old fibrous adhesions between the stomach and diaphragm. The ulcer was in the midst of an area of leathery induration of the wall, which was difficult to fold in, and in which stitches easily tore through.

The cavity of the abdomen was washed out with hot saline solution, some of which was allowed to remain behind, and a glass drainage-tube was passed down into the pelvis.

After the first twenty-four hours the temperature was persistently above normal, 100° to 101°, and there was discharge of pus from the wound. It was found possible to keep the bowels acting by means of enemata, and to this great care was given. On the 28th September, three weeks after the operation, patient had a rigor, after which she gradually collapsed, and died about six hours later.

Post-mortem, very extensive suppurative peritonitis was found in the flanks and under the diaphragm. There was also a recent perforation, as described, in the posterior wall, and extravasation into the lesser sac. While it is possible that this second perforation may have been the cause of the sudden termination of the case, Dr. Rutherfurd was not inclined to think that it was the source of the general infection of the peritoneum, the changes in the lesser sac being comparatively slight compared to what were found in the pelvis and under the diaphragm.

Dr. W. K. Hunter said—The diagnosis of perforation of a gastric ulcer is, as we have just seen, sometimes extremely difficult, but in the case we are now considering this was not so, the history of the illness being so clear as to make the diagnosis comparatively easy.

The patient had been under observation for many years, for when admitted it was found that she had been in the ward twice before. The *first* admission was as far back as *October, 1890*, when she was complaining of pain in the stomach and vomiting after food, the symptoms having been present more or less for over a year. The patient improved very much while in hospital, and was dismissed three weeks later quite well. After this she remained well, except for a few attacks of pain in her stomach, *till August, 1897*. She had at this time to leave off work for three months owing to a return of the old symptoms, but after the three months' rest she was able to go back to her situation, feeling quite well. She remained well, except for occasional attacks of dyspepsia, till *last April*, when she was again admitted into Ward 8. She was now very anæmic (red corpuscles, 3,200,000; hæmoglobin, 15 per cent), and it was thought that the gastric trouble was mostly due to the anæmia, for at no time had there ever been hæmatemesis or blood in the motions, and no distinct tenderness could be made out in the epigastrium. Patient was dismissed about a month later, feeling perfectly well.

Nothing more was seen of her till 8th September, when she was admitted, about 5 P.M., in a very urgent condition. It seems that for about ten days previous to this she had been suffering from pain after food, with vomiting of brownish material—the first history of hæmatemesis. At 1 P.M. on day of admission, at the end of an attack of vomiting, she felt sudden acute pain in the epigastrium, so severe as almost to cause her to faint. The pain gradually increased in extent, and at 3·30 P.M. it was felt all over the abdomen, and the patient was very much collapsed. Forty minims of tr. opii were administered.

When admitted into the ward (at 5 P.M.) she was still collapsed, but seemed under the influence of the opium, for the pupils were much contracted. She lay with the knees drawn up, and seemed to be suffering pain. Temperature was 97°, pulse 100, respiration 40. The abdomen was tender to the touch, and quite flaccid; there was no diminution of hepatic dull area.

The patient was pretty much in this condition when I saw her shortly after 7 o'clock, and although the physical signs were not marked, yet remembering that these might be masked by the opium, and taking account of her former history and the clear story of the sudden onset of the pain, there seemed little doubt as to its being a case of perforated gastric ulcer.

I shall read you the note I made at this time:—During the time which elapsed between admission and the operation patient was examined several times, and the most marked feature in the case was the more or less complete absence of abnormal physical signs. The pulse remained about 100, and was of good volume and quite regular. Temperature at 8 P.M. in rectum, 101°. The abdomen was neither retracted nor distended: it was slightly hard to palpation, giving the impression that the patient was contracting the muscles to avoid pain. There was slight generalised tenderness to the touch, but no acute pain. Percussion note over the abdomen may be described as dull tympanitic. There was no definite evidence of diminution of liver dulness.

Dr. J. S. M'Kendrick said that the mortality in cases operated on within twelve hours was 35 per cent, between twelve and twenty-four hours 75 per cent, and later 84 per cent. Early diagnosis was of cardinal importance. The onset of gastric ulceration was often insidious, and physical signs were not infrequently absent. The pain of perforation was sometimes localised over the appendix and the right iliac region.

Dr. Ritchie referred to a case in which there was doubt as to the existence of malignant disease. There had been no operation. *Post-mortem* a small ulceration was found in the cardiac end of the stomach, and an artery which had been plugged had undergone digestion by the gastric juice. In a second case which he had seen there had been symptoms of perforation, but upon examination pus was found in the liver.

Dr. Carstairs Douglas said that in duodenal ulcer there were often very few symptoms during life.

Dr. Middleton had had little experience of ruptured gastric ulcer, and had not diagnosed the condition during life. He referred to a case which he had already recorded.

Dr. Adamson asked about the occurrence of shoulder pain.

Dr. J. Lindsay Steven replied that he had no knowledge of shoulder pain in either of his cases. Symptoms might often be latent, especially in cases of pin-hole erosion. He would expect the pain to have its seat nearer the site of perforation than the right iliac fossa. The element of time was of the utmost importance in operation.

IV.—SPECIMENS OF A CIRRHOSED LIVER FROM A CHILD SIX YEARS OLD.

By Dr. W. K. Hunter and Dr. Workman.

Dr. Hunter and Dr. Workman's notes will be found as an original article in our issue for February, 1899, at p. 81.

Dr. J. Lindsay Steven had seen two typical cases in children under 6. One of them presented appearances similar to those of acute yellow atrophy.

V.—MYCOSIS OF THE LARYNX, WITH NOTES OF A CASE.

By Dr. A. A. Gray.

The following case is perhaps worth putting on record, as it appears to be in some respects unique:—

W. B., æt. 32, married, consulted me on the 10th of November, 1897, for hoarseness of many years' duration, and dryness of the throat and a tired feeling after speaking of some months' duration. He suffered from a slight attack of rheumatism ten or twelve years ago, but seems to have recovered without any sequelæ. Otherwise his previous history is good; there is no evidence of syphilis; he has always been very temperate in his use of alcohol, and for the last four years has abstained entirely. There is no history of loss of weight; indeed, during the last two years he has gained 7 lb. There is a slight tendency to constipation. There has been no cough at all.

The family history is not very good. There were originally ten of a family, but of these five only are left; the rest died young, one from "water in the head." The father died from "lock-jaw."

On examination, the pharynx is seen to be somewhat reddened. The left side of the larynx is swollen generally, and particularly in its posterior portions and along the aryteno-epiglottidean fold. The swelling is most marked over the left arytenoid cartilage, and over the upper part of this swelling there is a small greyish-white surface about the size of a split pea, and like a small ulcer in appearance.

The left cord is quite fixed. The right side of the larynx is normal in appearance.

On examination of the chest nothing abnormal is found. The urine is healthy.

In spite of the fact that the laryngeal appearance was exactly that of tubercular disease, I hesitated to pronounce it such, because (1) there was no cough at all; (2) there were no physical signs of any disease in the chest, nor was there any reason to suppose he was suffering from phthisis, which, though not always, in the great majority of cases precedes laryngeal tuberculosis; (3) there was no loss of weight.

A definite prognosis was not given, but I extracted a small piece of tissue from the swollen part with forceps in order to examine it for the tubercle bacillus. On the possibility of the affection being syphilitic, iodide of potassium was prescribed. As a local application the patient was ordered inhalations of terebene.

Cover-glass preparations were made from the piece of tissue removed from the larynx, and stained for the tubercle bacillus by the Ziehl-Neelsen method. No tubercle bacilli were found after a searching examination, but a remarkably large number of leptothrix filaments was found.

The patient returned on the 8th of November, 1897, and appeared to be in good general health. A careful examination was again made of his chest, but no signs of disease could be detected. On examining the pharynx and naso-pharynx there was no sign of mycosis.

The larynx presented almost exactly the same appearance as before. A piece of tissue was removed again, put in an agar tube, and sent up to the Western Infirmary, when Dr. Ferguson kindly made an attempt to cultivate it, but the attempt was unsuccessful, as, indeed, is usually the case with this organism.

On this visit the patient stated that his hoarseness was a little better, but I could detect no improvement myself. I felt justified, however, in giving him a good prognosis in regard to his health, but a poor one as regards his voice, on account of the fact that the cord still remained quite fixed.

As the iodide of potassium had produced an eruption, it was stopped, and creasote inhalations were substituted for those of terebene.

The patient returned again on the 22nd of December. The general health still remained good; the voice was only slightly, if any, better, but the swelling in the larynx was distinctly less, and the white surface over the left arytenoid was less defined at its margins.

A large mass of pultaceous whitish substance was squeezed out of the swelling with Schrötter's forceps. On examination this was found to consist almost entirely of leptothrix filament.

Menthol inhalations were substituted for the creasote.

I saw the patient next on 4th April, 1898—that is, after three and a half months' interval. He was in as good health as ever, and the voice was somewhat better, but still hoarse. He stated that the tired feeling in the throat which used to come on after speaking was quite gone.

On examination, the swelling and white surface in the larynx were seen to have completely disappeared, and the larynx was normal except for the fact that the left cord was firmly fixed in the middle line.

The patient has remained in the same condition since.

Mycosis of the larynx is in any case a rare affection, but the present case is, I believe, unique, in that the larynx was alone affected. In all the others that I have been able to find the laryngeal affection was associated with the same condition in the mouth, pharynx, or naso-pharynx.

The particular interest in the case just described is the way in which, so far as appearances went, the disease simulated tubercular laryngitis perfectly. The physical examination and the history of the case, however, and the peculiar absence of cough throughout the whole course, were sufficient to raise doubts about its nature, and the microscopical examination decided the matter definitely.

It must not be assumed that in the case described above the mycosis has been the original cause of the trouble. For my own part, I do not think it was, although to trace the whole sequence of events can only be a matter of speculation. The following explanation appears to me to be the most satisfactory:—Many years ago, possibly about at the time when the patient had his slight attack of rheumatism, the vocal cord became fixed. Such fixation of a part makes it a more suitable nidus for the organism, and it is quite possible that at some comparatively recent period the fungus obtained a footing, and caused the swelling, the congested appearance, and the sense of weariness after speaking. These symptoms disappeared after the cure of the mycosis, although the vocal cord remained fixed, and the hoarseness was unaffected.

The symptoms attributable to the mycosis were slight; but, as I have remarked before, the case is of some importance on account of the close similarity it presented to tubercular laryngitis. The naked eye gave us help in the diagnosis, but the microscope cleared the matter up at once. In view of this fact, it would be of interest to know whether some of the cases of so-called "cured tubercular laryngitis" may not have been in reality cases of mycosis of the larynx associated with phthisis pulmonalis.

As regards the literature of the subject, there is no other record, so far as I am aware, of mycosis of the larynx alone. A few cases, however, are recorded in which it has spread from adjacent parts of the buccal and pharyngeal cavities:—Dubler (*Virchow's Arch*, Bd. 126, S., p. 454), Labit (*Revue de Laryngol.*, 1893, No. 5, p. 168). The best exposition of the whole subject is that of Dr. Kelly, which appeared in the *Glasgow Medical Journal* of 1896.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY

SESSION 1898-99.

MEETING IV.—9TH JANUARY, 1899.

The President, DR. FLEMING, *in the Chair.*

I.—NOTES OF THREE CASES OF PRIMARY OVARIAN SARCOMA.

BY DR. ALEX. NAPIER.

CASE I.—J. H. S., a little girl of 11, was admitted to Ward IV, Victoria Infirmary, on 21st October, 1898. Her actual illness had been very recent, dating only from second week in September, when she began to complain of general debility. After a few days in bed at that time it was found that the abdomen was smaller, and it has remained more or less smaller ever since. The swelling became so marked that on 4th October her medical attendant tapped and drew off seven pints of dark-coloured fluid. As the swelling returned patient was sent into hospital.

Patient had had no previous illness, save scarlet fever, five years ago, and rheumatism two years ago. Emaciation had become marked during past two months. Bowels, as a rule, costive; no urinary trouble.

On admission, patient was pale, anæmic, and thin. Temperature, 99·4° F.; pulse, 94, small, and compressible. Abdomen much distended, with numerous largely dilated veins on surface, and physical signs of free fluid in its cavity. In the upper hypogastric region a tumour is felt on suddenly dipping the finger tips downwards in such a way as to push the ascitic fluid aside. The tumour is then felt to rebound against the fingers two or three times, as in *ballottement.* The tumour, which was hard and irregular to the touch, seemed to extend mainly to the left ovarian region. On examining *per rectum* a large, freely movable mass was felt, filling the left side of the pelvis and the pouch of Douglas. Girth, at level of umbilicus, 28 inches. No œdema of ankles. Heart sounds feeble, but pure. No abnormality in lung, save a few râles heard at both bases posteriorly.

Patient was transfered to surgical ward. A small exploratory incision was made in abdominal wall, when it was found that the tumour was connected with left ovary, and that numerous secondary growths were present on peritoneal surface and on omentum. No further operation was deemed advisable, and the wound was closed. A portion of one of the secondary peritoneal growths was removed, hardened and stained, and examined by Dr. A. Roxburgh. The sections, two of which are shown under the microscope, demonstrated the fact that the tumours were sarcomatous, of the large round-celled variety.

CASE II.—Isabella L., æt. 28, was admitted to Ward IV, Victoria Infirmary, on 4th December, 1896. Eight months previously she had begun to suffer from pain in stomach, increased by taking food, and relieved when stomach was emptied. There was also pain in left shoulder. Five months ago habitual vomiting began; no blood in vomit at any time. Three weeks before admission patient had a chill, with pain in left side (said to be pleuritic), and diarrhœa. Patient has recently lost flesh and colour. On admission there was marked tenderness in epigastric region, some percussion dulness at base of left lung, with feebleness of R.M.; no friction.

A week later it was noted that there was bulging of the thorax in left side in front, with an area of excessive tenderness and dull percussion. The latter did not resemble a splenic dulness, as it extended more to the right than downwards. Hæmoglobin, 60 per cent.

15th December.—Exploring needle introduced into swelling; point evidently in some solid body, and no fluid withdrawn.

9th January, 1897.—Bulging in splenic area increased. Large mass now felt in epigastrium under xiphoid cartilage, smooth to touch, and tender to pressure; 16 oz. of turbid fluid withdrawn from left pleura.

18th January.—Laparotomy in middle line, below xiphoid cartilage; solid tumour presented, traversed by large vessels; seemed to be greatly distended left lobe of liver. Small portion of tumour removed showed nothing but round cells and liver tissue.

28th January.—Patient gradually sank and died.

Post-mortem examination.—General emaciation. Large mass involving left lobe of liver, stomach, kidneys, and diaphragm, so that it was difficult to separate the parts. This tumour had extended also through diaphragm, and had invaded left lung. Tumour evidently malignant, probably sarcomatous. Small growth in each kidney. Left ovary uniformly enlarged, globular, 1½ inch in diameter, and showing in section same appearances as mass in liver. Small myoma at fundus uteri. Microscopic sections from liver and from from ovary showed that tumours were sarcomatous of round-celled variety.

CASE III.—J. S., a young woman of 23, was admitted into the Victoria Infirmary on 25th July, 1898, and died on 10th August. She complained, on admission, of swelling of abdomen and pain in the loins.

Three months previously patient's ailment began with gastric symptoms: pain on taking food, but with no vomiting. She suffered also from violent headaches. Later, the swelling was noticed in the iliac and hypogastric regions. Seven weeks before admission patient had an attack of what was called inflammation of the lung, which kept her in bed for two weeks. On rising from bed the whole abdomen was found to be uniformly swollen, and pain was felt in the lumbar regions. This pain was aching in character, and was relieved by lying down. Then came vomiting, occurring three or four times a day, not of blood, but of ordinary stomach contents, and having no relation to the taking of food. One week before admission the ankles and legs were swollen at night, and the face puffy in the morning. With this there was steadily increasing weakness, especially on exertion. For two weeks, also, there had been diarrhœa. Menstruation stated to be normal in time and quantity.

On admission patient was seen to be fairly well nourished, but presented œdema of face and lower limbs. Tongue clean and moist; pupils equal; pulse, fairly good. Temperature was normal throughout, till the last twenty-four hours of life, when it rose a little over 102° F.

Abdomen was found uniformly enlarged, tense to the touch, giving a dull percussion note everywhere, except in umbilical and epigastric regions. There was distinct fluctuation, with all the evidences of free fluid in the peritoneal cavity. Two solid masses were felt lying rather superficially in the abdominal cavity, just above Poupart's ligament, one on each side. These were slightly movable, oval in shape, nodular, tender to pressure, and not taking the impress of the finger. *Per rectum*, a large mass, tender, nodular, and firmly fixed, was felt filling the whole of the pelvis. In the abdominal cavity, by careful palpation, masses of considerable size are detected. In each flank especially is felt a large irregular nodular tumour, extremely movable, capable of being pushed up under the costal arches into the position of somewhat movable kidneys.

Heart normal, as regards its boundaries; sounds pure.

The chest gave evidence of fluid in both pleuræ; dull percussion note from seventh rib downwards on both sides, with suppression of R.M., V.R., and V.F. In the upper areas of the chest were a few moist râles.

In the upper part of left mammary region, lying between the mamma and the sternum, is a swelling, which patient has noticed only for two weeks. It is oblong, closely adherent to thoracic wall, especially to sternum, non-fluctuant, hard, and irregular. At its thickest part it seems to be about an inch in thickness.

The urine contained no blood, no sugar, but albumen in slight quantity, with a little pus. Under the microscope, epithelial and fatty casts are seen, with a few pus corpuscles.

On 1st August patient complained of severe headache, extending over whole head. She also became blind, and could not distinguish between light and darkness.

On 2nd August she had five convulsive seizures. In the fit both eyes were turned to the right, and there was a distinct double lateral nystagmus. There was twitching of both sides of the face, but more especially the left, and mouth was drawn to the left side. There was also twitching of the muscles of the left arm and both legs, especially the left. During the seizure patient passed urine. There was marked lividity of the face. These "fits" last about sixty seconds. Within an hour patient had five of these seizures.

3rd August.—Since yesterday patient has had altogether eleven seizures. Besides these distinct fits she has had a number of lesser seizures, in which the only notable symptom was that her eyes turned to the left, and there was lateral double nystagmus.

5th August: Dr. Napier's note.—There have been no convulsive seizures since last note. Patient became absolutely blind in connection with the above-mentioned attacks, failing to distinguish between light and darkness. Pupils remained contracted. No ocular paralysis. With this, also, patient became almost absolutely deaf, and almost unconscious. No view of the fundus could be obtained.

To-day patient is much more intelligent, is not so deaf, and has to a large extent regained her vision. She can count the fingers and recognise large type. She makes no complaint of pain. Urine copious. Bowels moving freely. Discharges still passed in bed, although patient asked for bedpan this morning.

The fluid has almost entirely disappeared from both pleuræ, from abdomen, and from subcutaneous tissue generally.

In the pelvic masses no change is to be noted, except that on the right, just above Poupart's ligament, the nodule seems larger.

9th August.—Patient is emaciating greatly; she is still quite conscious.

10th August.—Patient died to-day. She had been getting gradually weaker, and the ascites had become much more marked. The fluid in the pleuræ diminished, and there has been no return of the convulsive seizures.

Post-mortem appearances.—Post-mortem rigidity well marked. The abdomen is markedly distended, and the abdominal walls present a greenish colour.

There is a small nodule the size of a millet-seed noticed under the skin on the left side of the forehead. On opening the chest there is found on the posterior aspect of the sternum and costal cartilages a large number of whitish-looking tumours, hard to the touch, and on section showing a ground-rice appearance. The right lung is adherent to these masses. In the anterior and posterior mediastina there are large numbers of these tumours. On opening the pericardium about 1 oz. of yellowish fluid escaped. On the posterior aspect of the heart there are several nodules which extend from the visceral layer of the pericardium for a short distance into the heart muscle. Otherwise the heart is normal.

Lungs.—The right lung is adherent in its upper half to the anterior thoracic wall. There are three nodules at the root of the lung; otherwise the lung is normal. Left lung is normal. There are several ounces of yellowish fluid in each pleural cavity.

Abdomen.—On opening the abdomen a large amount of yellowish fluid escaped. The omentum has in its substance large numbers of nodules, varying in size from the bulk of a small apple to that of a millet-seed. The mesentery of the small intestine is in a similar condition. The hepatic flexure of the colon is closely adherent to a large tumour in the right side, which proved to be the right kidney, and the splenic flexure is closely adherent to the very much enlarged kidney in the left.

Both kidneys are much enlarged; the right measures 8 inches by 4½ inches, the left 8½ inches by 4¾ inches. On section very little kidney substance is seen in the centre of each mass; the rest is disposed in convolutions, being similar to those of brain matter. The capsules are non-adherent.

Spleen.—Normal.

Liver.—Normal. Two deposits in gall-bladder.

Pelvis.—There are found two masses which correspond to ovaries. They are large, lobulated, and hard to the touch. Uterus, vagina, and rectum unaffected. The left ovarian tumour was found in Douglas' pouch. A great many of the pelvic glands were found enlarged. There was a tumour found in left breast, oval in form, measuring 5 inches by 1½ inch, situated above and to the inside of the nipple, whitish in colour, and closely adherent to the chest wall.

Brain and membranes normal.

II.—PRIMARY SARCOMA OF THE STOMACH IN A YOUNG CHILD.

BY DR. FINLAYSON.

Dr. Finlayson showed a preparation, with stereoscopic photographs and microscopic sections, from a case of sarcoma of stomach in a child 5 years old. He remarked on the rarity of such cases at early ages, and detailed the symptoms observed during life.

III.—SPECIMEN OF A CYST OF THE BOWEL WALL.

BY MR. MAYLARD.

The cyst is about the size of a small walnut, situated on the internal surface of the ileum, about 10 inches up from the ileo-cæcal valve. It was distended with pale-yellow, granular, viscid fluid, which, when examined under the microscope, was seen to be composed almost entirely of granular fatty particles, with here and there crystals of cholesterine. The cyst entirely blocked the canal, so that not even fluid could pass at the seat of obstruction. The tumour formed the apex of an intussusception of the enteric variety, and caused death from obstruction.

Clinical history.—Specimen was removed by operation from a man, aged 66, who was admitted suffering from symptoms of acute intestinal obstruction.

He had previously had attacks which had been relieved by subcutaneous injections of morphia, but in this attack no relief had been so obtained. He was operated upon fifteen and a half hours after his seizure with pain, which began somewhat gradually. An intussusception was found in the cæcum, consisting of one segment of the ileum into another, and the projection of the whole through the ileo-cæcal valve. The cyst formed the apex of the intussusception—the parts being irreducible were excised, and end to end anastomosis effected by Murphy's button. Lastly, the distended gut was emptied by an incision. The operation was completed in an hour, but just at its conclusion the patient's strength showed rapid signs of failing, and he died before removal from the theatre.

IV.—SPECIMEN OF ADVENTITIOUS DIVERTICULUM OF THE SIGMOID FLEXURE.

BY MR. MAYLARD.

The specimen shows a conical-shaped pouching of the whole bowel wall for the extent of about half an inch. It was removed from a case of intestinal obstruction caused by a band which had passed from the apex of this diverticulum to the jejunum, about 2 feet from the duodenum. The jejunum was free from any permanent pouching at the point of attachment to the band.

Clinical history.—A boy, aged 7, was admitted with symptoms of acute obstruction of four days' duration. He had previously had on several occasions similar attacks of acute pain, but these had passed off. The abdomen was opened, and a tense band detected, passing from a well-marked diverticulum, which was at the time supposed to be Meckel's, to another segment of the bowel. After emptying the distended gut by an incision, the band was divided. A number of enlarged glands existed in the mesentery. The wound was closed, and the stomach washed out, a considerable quantity of yellowish-brown material being removed.

The operation lasted half an hour, and the patient, who was somewhat collapsed at the end, rallied afterwards. He never, however, showed any real indications of permanent improvement, and died sixteen hours afterwards from what appeared to be fæcal obstruction and poisoning.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Session 1898-99.

Meeting III.—21st December, 1898.

The President, Dr. Alexander Miller, *in the Chair.*

I.—FRESH SPECIMENS.

By Dr. J. Edgar.

1. *Retroflexion of an eight months' fœtus, with double talipes varus.*—This specimen was kindly presented to Dr. Edgar by Dr. Clark, of Rutherglen, who attended the confinement. The mother was a v-para. The third child was an exencephalus; the other three were normal. Dr. Clark, on being summoned to the case, found the os fully dilated, and both feet presenting; and as labour had been prolonged, he delivered the child by the feet with considerable difficulty, owing to the retroflexion of the trunk. It was born asphyxiated, and, after a gasp or two, died.

The funis was, unfortunately, not measured, but it appeared to be of normal length. The common cause of retroflexion was, therefore, absent in this case. Dr Edgar proposed to dissect the specimen, in order to find out whether the deformity had originated from some defect of the vertebral column. In conclusion, he drew attention to the fact that in the first three weeks the natural attitude of the embryo is one of retroflexion.

2. *Exencephalus of a three and a half weeks' embryo.*

3. *Anencephalus and complete spina bifida of a three and a half weeks' embryo.*—Each was half an inch in length, and had short limbs, but no digits. The fœtal axis of each was straight; in other words, flexion had not yet set in. In the latter, the ventral opening was still patent, but the former had a short umbilical cord.

4. *Placenta duplex from a case of placenta prævia centralis.*—The two lobes measure respectively 9¾ inches by 5¾ inches, and 7¼ inches by 7 inches. They were quite separate, but at one point, the site of insertion of the funis, which was 22½ inches long, they were nearly in contact with each other. On either side of this point the opposing edges of the two lobes diverged till they were about 1½ inch apart.

The case was one of complete placenta prævia. The patient was an xi-para. The first hæmorrhage, which was slight, occurred ten days before the confinement, but she did not call her medical attendant, Dr. Glen, until a week afterwards, when a second bleeding took place. He employed palliative treatment. Three days subsequently he received an urgent summons to the case, and found the patient bleeding so profusely that he plugged, and sent for Dr. Edgar. The latter, on his arrival, found the os dilated sufficiently for the introduction of two fingers, the breech presenting, and the placenta covering the os so completely that, though he separated the placenta all round to the extent of a finger-length, he could not reach the edge. He, therefore, perforated it with his fingers, seized a foot, and delivered, slowly, and without difficulty, a living child. There was no hæmorrhage from the time the foot was brought to the vulva orifice. Both mother and child did well.

5. "*Khiva corselet.*"—Dr. Edgar was of opinion that this corselet was admirably adapted for the use of pregnant women. While supporting the mammæ, it did not exercise any pressure whatever on the abdomen and its contents, for the simple reason that it did not extend below the waist. The corselet possessed shoulder-straps, and there were buttons round the lower margin, to which the under-garments could be fastened, and so hung from their proper support, the shoulders. A patient of Dr. Edgar had told him she had

found the corselet very comfortable, not only when pregnant, but also when cycling. He did not know who was the inventor.

II.—PRESIDENTIAL ADDRESS—TWENTY YEARS' OBSTETRIC PRACTICE.

By Dr. Alex. Miller.

While fully conscious of the honour which you conferred on me by electing me to be your president, I must confess to not a little diffidence when I appear before you to deliver what is usually called a presidential address. There is a certain element of truth in the remark made by the editor of one of our medical journals when he stated, in a recent number, that it was a great bore to the man selected to deliver the usual introductory address. The speaker had to prepare and deliver his discourse, but the audience had it in their power to absent themselves, and thus feel a sense of relief. However, the two occasions are not quite parallel, and in both cases we have custom to guide us. In the one case, an outsider is generally selected to open the session with an address; here, it is one of ourselves, and thus it partakes of a family gathering. We, too, have the privilege of hearing an address from an outsider, who becomes one of ourselves, and we look forward to that address with a sense of eager expectancy, knowing that we are sure to hear something worth listening too.

Holding no hospital appointment, and thus being unlike most of my predecessors in this chair, I feel that my selection of a subject on which to address you is considerably curtailed, because of the lack of clinical material. There can be no doubt at all of the value of such appointments to the individual in medicine or surgery, and specially, I think, in obstetrics or gynæcology.

To the professor or teacher of obstetrics or gynæcology, it is an absolute necessity that he should have abundant clinical material whereby he may be enabled to instruct those committed to his care in the practice of their art. We look to those of you who are thus situated to give us the benefit of your ever-increasing and widening experience.

When I look back over the past years of our existence as a Society, I find that surgery and surgical gynæcology have bulked very largely in our contributions—necessarily so—but we must not lose sight of the fact that we are an obstetrical as well as a gynæcological society, and that perhaps the bulk of our Fellows are those engaged in general practice, and are debarred from performing many of the operations that are required for the frequently recurring cases demanding the attention of those more experienced.

I should have been quite content to remain a humble member, and to seek to advance the interests of our society in any other way, but, as you have asked me to preside over your deliberations, I feel that I can trust to your kind forbearance with any weakness or imperfections of mine, and I feel assured that I can rely on your generous help in any difficulty. I need not say, I hope, that I have always taken a deep interest in our Society since its formation; and I think I can venture to affirm that, as far as in me lies, I shall continue to manifest an even deeper interest in its affairs.

And here I would like to congratulate our Society on the appearance in the field of literature of the first volume of its *Transactions.* That volume will compare very favourably with any similar one—it is well got up, neat, and tasteful. The internal arrangement might, and very likely will, be improved in subsequent volumes. To my mind, it contains a record of good, honest work done, both in its original contributions and discussions; and, taking it all in all, it is a production of which any society might well feel proud.

I thought I might have been able to address you upon some ethical subject affecting our profession, but I have not been able for that, chiefly for lack of time. So, presently, I am only able to weary you with a *résumé* of my "Twenty Years' Obstetric Practice."

Before doing so, I should like to say that I owe any experience I have gained to my connection with the old Maternity Hospital in my student days: first, as in-door assistant; then as out-door; and, finally, as one of the district physicians. I consider the experience gained during these few years as simply invaluable, and as having given me an insight into life, and a training for my future work. It was not the necessary six or twelve cases which I attended, but several hundreds.

During the period in which I have been in practice, first in the east end of the city, and then in my present sphere, I have attended in round numbers a thousand labours. I have not had the good fortune to attend two or three hundred women per annum, hence my cases are not so numerous as some who have communicated their experience to you in past years. Still, with others, I have had a good variety, the great bulk, as usual, being cases of normal presentation.

On analysis, I find there were—13 cases of breech presentation, 2 cases of foot presentation, 2 cases of shoulder presentation, 1 case of left side presentation, 5 cases of occipital posterior presentation, 5 cases of placenta prævia, 2 cases of puerperal eclampsia, 8 cases of version, 125 cases of forceps delivery, 11 cases of induction of labour (prematurely), 40 children were born prematurely (20 of whom were born alive), 43 children were still-born (18 of whom were full time—7 being forceps cases). I have had 6 maternal deaths in all, being less than 1 per cent, but only 2 of these were incidental to parturition or following upon it. The infant mortality in forceps cases was at the rate of 6 per cent, the maternal mortality in the same cases being *nil.*

Of abnormal presentations, there were—1 of the shoulder (child being born alive), 1 of the shoulder (child born dead, being premature at six and a half months), 2 of the arm (both dead), 1 of the left side (dead), 2 of the foot (one born alive, the other dead), 10 of the breech cases (children alive, full time), 1 of the breech cases born alive (premature at six and a half months, but died), 2 of the breech cases premature (dead). Face to pubes presentation have been rarely met with, only 5 cases, all born alive; 1 child weighed 13 lb. Version was performed eight times—twice for shoulder presentation, twice for arm presentation, once for left side presentation, thrice for normal presentation in contracted pelvis and where the labour was induced. I have never required to perform the operation of craniotomy.

As is usually met with in general practice, syphilis is responsible for the deaths of at least six children, full time, and also of several prematurely born.

I have had six maternal deaths, which may seem a rather heavy death-rate for the number of cases. So it is; but these I shall explain further on.

I have not met with many cases of post-partum hæmorrhage, and very few cases in which the placenta was adherent.

I have taken no note of the numerous cases of abortion; and I am glad to be able to state that I have had no deaths from these three last causes—that is, from adherent placenta, post-partum hæmorrhage, and abortion.

A few days ago I was called in the early morning to see a patient, aged 42 years, who, I was told, had taken a flooding. On my arrival, I found her almost pulseless, and with all the other evidences of excessive hæmorrhage. I found on enquiry that she had a slight discharge for four days—the usual condition of affairs—the supposition in this case being that the change of life had supervened, and that this was only what was to be looked for. A short time sufficed to scoop out the remains of the placental tissue from the interior of the uterus, and to plug it with sterilised gauze, which treatment, combined with stimulants, had the desired effect of arresting the bleeding, and, in due course, of restoring the patient to wonted strength.

I may say here, in passing, that my usual treatment in those cases of abortion is, if seen early, to insist on absolute rest in bed, and to adminster opium. If pains have come, and the os uteri is patent with dependence or protrusion of the membrane, to give ergot, if necessary, for the pains, and to complete the evacuation of the uterus under chloroform. When this is done, my mind is at rest. I think it is a great mistake to wait for any length of time to allow the uterus to complete the expulsion of placenta and membrane, because we have no assurance that the patient is safe from the risk of hæmorrhage, which may become alarming without almost any warning. I have no experience of a method which seems to be practised by some—viz., that of plugging the uterus with sterilised gauze after the expulsion of the fœtus, and then waiting till the uterus has had time to contract and expel its whole contents. It is, perhaps, worth trying in some cases.

I have had five cases of placenta prævia—four partial and one central. In the cases of partial placenta prævia, the mothers and children all did well; in the case of central, both died. And this leads me here to speak of the maternal deaths. One, as I have already said, died from hæmorrhage and shock, due to placenta prævia; 1 died of acute phthisis, 1 died of enteric fever, and 1 died suddenly of cardiac syncope three weeks after the birth of her child. This lady I had known for some time before her marriage to have suffered from mitral regurgitation. At the end of the eighth month of pregnancy she contracted a severe cold, which confined her to bed with acute bronchitis. The troublesome cough induced labour, and, to save her heart, I delivered her as early as possible with forceps. The child was born alive. After two weeks in bed, she was allowed to get up in her room, but, unfortunately, caught a chill, which developed into pneumonia. She was progressing favourably, until, on the third or fourth day, she suddenly expired, after taking a little brandy and water.

One—a primipara—died on the fourth day after delivery, from cerebral congestion, rather suddenly. I saw her when she was three months pregnant, and even then she was morbidly apprehensive of her condition. She told me the history of a sister, who had died the year before, on the ninth or tenth day after her confinement. This so preyed on her mind during almost the whole period of gestation that she stated more than once to some of her friends, as well as to myself, that she felt sure she would never get over it. It was in vain to try to reason with her as to the folly of her harbouring such ideas. I verily believe that this mental condition had not a little to do with the early and untimely death of this patient. I may state that there were no pelvic symptoms to account for this, as can be vouched for by Professor Cameron, who saw her in consultation with me.

Then there is one other death, and that from puerperal septicæmia—a primipara—in whom the labour was long and tedious. In this case I was assisted by Dr. Fenwick, who saw her with me, and who administered chloroform. The delivery was effected with forceps, the child being alive. This patient was nursed by her mother, who was up in years, but who insisted on being with her daughter. She was one of the old school, and did not see the necessity for the new-fangled ideas of treatment—administration of morphia suppositories, douching, &c.—so these were not carried out as directed, and I am inclined to think that the want of proper and particular attention being paid to strict antiseptic precautions had not a little to do with the untoward result.

I should like to explain further concerning the case of placenta prævia centralis, that this patient was one liable to hæmorrhage after her labours, for which she was treated with iron during one or two of her pregnancies, and with a mixture of ergot and strychnia for about six weeks before her expected confinement—a plan of treatment I had seen to be adopted in Dublin by Dr. Lombe Atthill, and which I have adopted frequently, and with good results. On one other occasion I had attended her when she had a partial placenta prævia—the child on that occasion being born alive with forceps. For two hours after the delivery I could not leave her bedside, on account of great exhaustion. Her next confinement was natural, though the labour was more tedious than usual—delivery being effected again by forceps, in which I was assisted by one living near her. When she was about eight months pregnant with her next child, she had a slight discharge of blood; and, having been previously warned of such a possibility, went to bed, when it stopped. I was sent for, and cautioned her to remain in bed for several days. On the third day, however, when sitting up in bed to take some tea, she had an alarming hæmorrhage, and sent for one near to see her at once. This friend, who had also assisted at her previous confinement, saw her very early. He gave her two tabloids of ergotin, and advised her husband to go for me. On my arrival, about an hour and a half afterwards, I found her nearly pulseless. I immediately sent for him again to assist me. No time was lost in administering chloroform. I cleared the vagina of clots, insinuated my hand through the placenta, brought down a foot, and delivered the child—still-born—separated the placenta all round from its attachment, and the hæmorrhage practically stopped. Everything was tried to restore and resuscitate our patient, but unfortunately she sank, and died about two hours after. One cannot but feel intensely when face to face with an experience such as that. I regret that we had not the means at hand for the intravenous or intercellular injection of a quantity of saline solution. Whether that would have saved her or no, I cannot pretend to say; I fear not. What I regret is, that nothing active was done to arrest the hæmorrhage at an earlier stage, which was the only time possible to save her life. My medical friend who saw her had not gone fifty yards from the house when she had an alarming bleeding. If he had been summoned back, he might have done something then to save her. These, as we all know, are alarming cases, and very prompt measures must be adopted if the lives of mother and child are to be rescued from impending death. The life of the child is always in jeopardy, that of the mother may be saved.

The other two maternal deaths, viz., those from phthisis and enteric fever, occurred fully twenty years ago, and in neither case could the death be said to be due to confinement, though both were serious complications. It is almost a certainty for a woman to abort who is the subject of enteric fever. In this case, so far as the puerperium was concerned, everything was normal. In the case of phthisis, the end was accelerated by the confinement. So that my maternal mortality may safely be reduced to two, viz., those of puerperal septicæmia and placenta prævia, and I trust you will agree with me when I say that I could hardly be blamed with that death. As regards the other, I have regrets that I did not insist more on a proper nurse at the time.

So far as I remember, I have had only two cases of puerperal eclampsia—both in primiparæ, in whom I believe it is most commonly met with. In the first case, everything was progressing quite favourably, when, with the head well down in the cavity and after a severe pain, the woman had a convulsion. Immediately I had the patient put under chloroform, applied the forceps, and completed the delivery with no further return of the fits. This case was simply due to a reflex irritation, and was uncomplicated by any evidence of uræmia.

The other was uræmic in character, and, as is commonly met with, was attended with violent convulsions early during the first stage of labour. Bromide of potassium and chloral in large doses were given at regular intervals *per rectum*, which had the effect of moderating the severity and diminishing the frequency of the fits. Pains were regular and fairly strong. Under chloroform I dilated the os uteri as rapidly as possible with the fingers, applied the forceps, and delivered a living child. The convulsions continued for some hours after the child was born, but the mother eventually made a good recovery. The albuminuria disappeared completely. I have not heard further of this lady's after-history, as she removed from my neighbourhood.

One case of obstruction at the pelvic brim, due to a hydrocephalic head. This was a primipara whom I was engaged to attend, but, being laid aside by illness at the time, she was taken in charge by Dr. Fenwick, who had the assistance of Dr. A. S. Tindal. As she was a long time ill, and seemed to be making no headway, while both had tried to deliver by forceps—the patient being deeply under chloroform—they decided to call in the aid of Professor Murdoch Cameron. He also tried the forceps, but failing, decided to perforate. This was done, and the child—a hydrocephalic—delivered. The mother made a tedious, but ultimately a good, recovery.

I was face to face with a very serious complication of affairs one morning, viz., acute inversion of the uterus. Such was the condition I discovered on being called to see Mrs. A. B., a multipara. The child had been born about forty-five minutes before my arrival, her mother attending. I found her in a state of collapse, unconscious from both hæmorrhage and shock —more the latter than the former. As the occasion was one demanding immediate action rather than wasting time asking questions, I endeavoured to remove the placenta, but, finding that something serious was wrong, I exposed the patient to full light, and found that I had to deal with a case of complete inversion of the uterus, and quite procident. By dint of steady but firm pressure, exerted in the direction of the axes of the pelvis, I managed to reduce it completely. The patient remained unconscious for eight or ten hours after, but made a good recovery. This was undoubtedly caused by an undue traction on the cord. The placenta, which had been removed before my arrival, could not have been firmly adherent, but, I think, was partially so. While attending this lady on a subsequent confinement, I noticed that if I tried to pull the cord it caused a cup-shaped depression at the fundus, showing that if the same tactics had been adopted as on the previous occasion the like untoward result would in all probability have taken place.

I consider that I have had my fair share of those troublesome cases of obstruction at the brim due to projection forward of the promontory of the sacrum, viz., fifteen cases. These always require forceps, and the sooner they are used after full dilatation of the os the better, as I find there is little or nothing to be gained by waiting for hours to see what progress the head makes downward. The pains may be severe, and succeed in squeezing the head through the narrowed conjugate, but, in the majority of cases, we require to have recourse to instrumental aid. And in these cases, as, indeed, in all my forceps cases, I use Barnes'. I have always found them quite sufficient for the worst cases. I have had no experience at all of the axis-traction forceps. Not that I would not use them, for indeed I have a great fancy to try them. And perhaps you will pardon me for a little digression at this point to state that the pair of forceps which I use I received from one of our former professors in Glasgow, whose lady was the subject of contracted pelvis, and who was being attended to on one occasion by the late Drs. J. G. Wilson and Tannahill, physicians to the Maternity Hospital. I was left in charge for two nights to watch the case, which was one of labour induced at the eighth month. The case turned out to be one of foot presentation, and unfortunately the baby was still-born. The mother and friends were greatly grieved at this result, the more so as this was either her third or fourth confinement with similar unfortunate result. The lady had a good recovery.

When I am called upon a second time to attend a patient who is the subject of pelvic deformity, I take into serious consideration the question whether it would not be advisable to induce premature labour at or about the eighth month. To settle a question of such supreme importance both to mother and child is not by any means an easy matter. To a certain extent we must take into account her previous experience. If this has been such that no unusual difficulty has existed in effecting delivery by forceps, or if she has been able after supreme effort extending over several hours to overcome the mechanical obstacle, then, I think, we are justified in allowing the pregnancy to go on to full period, and all the more so if the child has been born alive. But if, on the other hand, the woman has been utterly unable to deliver herself, or the accoucheur has only been able to effect delivery after considerable difficulty, and after an hour's traction, intermittently applied, then I am convinced that it is safer for both mother and child to induce labour earlier. In my experience it is perfectly safe for the mother, and infinitely safer for the child. I have, therefore, acting on this experience, induced premature labour eleven times—once in one patient, twice in two patients, and six times in one patient—and in all successfully and quite easily.

My method of inducing labour is to introduce a gum elastic catheter, previously steeped in an antiseptic solution for some hours, into the uterus, insinuating it between the membranes and the uterine wall (the vagina having been primarily douched); then to withdraw the stilette, and keep it *in situ* by packing the vagina with antiseptic gauze. Usually the pains come on in from eight to eighteen or twenty-four hours. After the pains have lasted for an hour or two the gauze and catheter are withdrawn. Labour goes on, and the child is born commonly without the need of instrumental aid. Occasionally, however, forceps are required to complete the delivery, or recourse may be had to version.

And here I would mention that the only case of vesico-vaginal fistula I ever had was brought about in a case of this kind, where I turned and effected delivery remarkably easily. To my horror, next day I discovered that there must be a fistula. I must have omitted to use the catheter before operating. So much for the cases of pelvic deformity causing obstruction at the brim.

I have met with eleven cases of undue curvature of the coccyx causing obstruction at the outlet. These are fortunately not so difficult to get over, and are more easily managed than the other. There is in these cases either a dislocation or fracture of the sacro-coccygeal joint, and this takes a long time to become firm, causing a good deal of discomfort to the patient when she gets out of bed and when seated. This, however, in time disappears.

I have met with not a few cases of laceration of the perinæum, none of them being, however, into the rectum. In all cases, however slight, I believe in immediate repair, and the vast majority do well. I consider this to be a very important thing for the after-comfort of the mother, because I believe that if the perinæum is not repaired, but is left to granulate and heal, that the chances are that the woman will suffer to a greater or less extent from prolapse of the womb, due to lack of the proper support from the perinæum.

Until twelve months ago I had never met with a case of scarlet fever occuring during the puerperium. But at that time a primipara developed a rather sharp attack on the third day after her confinement. Whether I had carried the germs of infection or not I cannot say, but I had not seen a case for forty-eight hours previously. It was prevalent in the neighbourhood where the patient resided. Although she was very ill, fortunately there was no septic infection of the genital tract, and a good recovery was the result. The young husband also contracted the disease from his wife.

As I have already stated, I have had 125 cases of forceps—15 of these were for obstruction at the brim, 11 for obstruction at the outlet, 2 for eclampsia, 1 for a hydrocephalic child, 5 for third and fourth cranial positions, and the remainder for first and second cranial positions, where the labour was unduly delayed for various ordinary causes—such as uterine inertia, prolonged first stages where the patients were exhausted and unable of themselves to complete delivery.

As a rule, I am strongly of opinion that the forceps should not be applied unless the head is well down in the cavity or resting on the perinæum; then the os is fully dilated, and there is more or less recession of the anterior as well as the posterior lip of the uterus. And I prefer the patient to be fully under the influence of chloroform.

As with most of you, I find that the longer I am in practice the more frequently I use the forceps. In my early days, they were used only in about 8 to 10 per cent, now they are used in about 25 per cent of all the cases. I know that a number of practitioners have a much larger percentage even than that. It must be very trying for those who have very large practices, and who attend two hundred or more midwifery cases every year, to afford the time to wait patiently on so many women. They are thus tempted to use the forceps oftener, perhaps, than should be done. But my fear has always been that when used too soon we are so apt to cause laceration of the cervix and of the vagina, and thus to place the patient in a condition of greater risk of septic infection—for septic infection is wound infection. Lacerations of the cervix are common enough in the bulk of primiparæ, no matter whether forceps are used or not; but I fear that rather severe lacerations are sometimes caused when the forceps are used too early, and I have seen not a few cases of this affection which have afterwards caused considerable trouble and discomfort to the patient for years.

Cases of rigidity of the os uteri are common in primiparæ. In such I have found the administration of chloral in 10 to 15 grain doses, alone or combined with bromide of potassium, effectual in overcoming this to a good extent. Where the same condition exists in those who have had children, I usually give a pill of opium and belladonna—2 grains of the former to 1 of the latter, repeated in two hours if necessary.

I have no experience of cocaine applied to the os in these cases. At the recent meeting of the British Medical Association at Edinburgh, a short paper was read by a Dr. Farrer giving his further experience of this drug in those cases. In several cases narrated he had very good results. Our worthy Secretary was present at that meeting, and spoke of his having tried it once or twice with no good effect. He had used it in the form of pessaries. I was looking over the *British Medical Journal* of last Saturday, and I found there notes of a case recorded by a Dr. Bidie in Hyderabad. As it seems to corroborate what Dr. Farrer had found, I take the liberty of mentioning it. This was a case of a European, a primipara, who had had frequent attacks of malarial fever, and in whom the labour pains were in consequence extremely feeble. Dr. Bidie freely applied a 10 per cent solution on a pledget of cotton-wool. This was left inside the lips of the os. On re-examination within ten minutes he found the previously rigid os fully dilated, so that he was enabled to apply the forceps with ease, and deliver the child. Up to that time—and this was written a month ago—he had been in the habit of giving chloral hydrate. Dr. Bidie found no bad effects at all from the use of the cocaine. On the first opportunity I mean to try this, as these are the cases which wear out the patient's strength and the patience of the attendant.

Another very important drug which I consider of very great value in aiding us in those cases is chloroform, given cautiously and regularly just before a pain comes on. It greatly helps in a number of those cases. Chloroform nowadays is a *sine quâ non* in obstetric practice. In my earlier practice I never used it, except in severe forceps cases. Now I scarcely attend a confinement where it is not administered, especially in the end of the second stage. Many women demand it long before that time, but, as a rule, I refuse to give it, telling them that I consider that it will only hinder the progress of labour, and that they will be longer in consequence. But the case is different when the head or other presenting part of the child reaches the perinæum. Then I administer it freely, to give relief to the pain. There are still a few women who do not care to take it, and in these cases it is wisest to allow nature to take its course. I have never had any unpleasant experience with chloroform, except, perhaps, in a few cases where there has been a tendency to hæmorrhage. But to be forewarned is to be forearmed, and this is one of the dangers to be anticipated. Hence the need of firm and continued pressure on the uterus externally by the hand of the nurse immediately the child is delivered and after the placenta has been expelled, and while a dose of ergot has been administered by the mouth, if it can be given, or hypodermically an injection of ergotin or ergoes. Only on one occasion recently have I had alarming hæmorrhage. Still, there is a greater liability after chloroform to relaxation of the uterus, and we require to be on our guard to watch the patient for an hour or two afterwards. We have heard so much recently anent strict antisepsis in obstetric practice by our late esteemed president that I need say no more. I can only say amen to what was then said. Our worthy Secretary has been the means of drawing attention to this very vital point; and in consequence of what he wrote on the subject has provoked quite a flood of opinion from all parts of the empire —some in praise of his contention, others laughing it almost to scorn. And in this month's number of the *Practitioner* the reviewer of a recent book on *Clinical Observation on Two Thousand Obstetric Cases*, by Dr. G. Porter Mathew, refers, *inter alia*, to "the recent deluge of 'literature' on the subject of aseptic and antiseptic midwifery," where he says that "it is a real relief to find a writer who is able to tell us all he has learnt from two thousand cases without mentioning the washing of his hands or the cleansing of the patient; without discussing the desirability of scrubbing the vagina with a nail-brush, or the dangers that attend the use of domestic grease for anointing the examining finger."

This seems, does it not, a rather striking omission, but perhaps Dr. Mathew takes it for granted that all these precautions are universally carried out, and that therefore at this time of day it is quite unnecessary to insist on such minutiæ.

The time is coming, I believe, when the maternal mortality on childbed will be, or certainly ought to be, reduced to almost *nil;* and it is for us to do whatever we can to accomplish this very desirable end.

REVIEWS.

An American Text-Book of the Diseases of Children. By American Teachers. Edited by LOUIS STARR, M.D., assisted by THOMPSON S. WESTCOTT, M.D. Second Edition, Revised. London: The Rebman Publishing Co., Limited. 1898.

Medical Diseases of Infancy and Childhood. By DAWSON WILLIAMS, M.D. Lond. London: Cassell & Co., Limited. 1898.

Manual of the Diseases of Children. By JOHN MADISON TAYLOR, A.M., M.D., and WILLIAM H. WELLS, M.D. Illustrated. London: Henry Kimpton. 1899.

The Mental Affections of Children: Idiocy, Imbecility, and Insanity. By WILLIAM W. IRELAND, M.D. Ed. London: J. & A. Churchill. 1898.

DURING the last quarter of a century the subject of the diseases of children, or pediatrics as it is now termed, has been receiving more and more attention from medical writers. There are now a considerable number of well-established periodicals—in German, French, and English—devoted to the discussion of the affections of infancy and childhood, and the above list of works shows that there is no abatement of the enthusiasm of those members of the profession who devote themselves to the care of the young. Three of the four works are devoted to a consideration of the general subject, and the fourth deals only with the mental affections of childhood. It may readily be admitted that such a list is a fairly comprehensive one for a single department of medicine in one year, and the fact that the largest work of the whole is in its second edition shows that there is a demand for authoritative treatises of this kind. It could, however, hardly be otherwise. The treatment of the diseases of children forms a very large part of the general practitioner's work, and up till now, in this country at least, no very satisfactory provision for the teaching of pediatrics has yet been made. It cannot, however, be said that the literature is at all deficient, and we hope that soon the means of imparting clinical instruction to students will be greatly improved.

Dr. Starr's American text-book is an encyclopædic work which will be of greater service to the practitioner than to the student. The articles cover every department of the speciality, and have been written by a staff of no less than sixty-five physicians. The sections by the editor on the general management of children and on simple atrophy betray his intimate and practical acquaintance with the diseases of early life. As is always the case in a work of this kind, the articles vary in value, and sometimes it appears to us that the pediatric relationship of the disease under discussion has been somewhat lost sight of. For example, in a treatise of this kind one hardly looks for an exhaustive account of cholera Asiatica, extending to some twenty large octavo pages, in the whole of which there is hardly a reference to children at all. We are afraid, too, that Edington's observations on the organisms of scarlet fever still lack confirmation, notwithstanding the more recent work of E. O. Shakespeare. The editor mourns the loss of two of his collaborators, Dr. Earle (of Chicago) and Dr. Lewis Smith (of New York), but we note also that since the preface of the second edition was printed Dr. William Pepper, who writes on pneumonia, has also passed away.

Dr. Dawson Williams' book can be most confidently recommended as a most reliable text-book for the student and young practitioner. A due sense of proportion prevails throughout, and the descriptions are clear, accurate, and concise. The illustrations add greatly to the value of the volume. The same remarks may be made of the manual of Drs. Taylor and Wells. The scope and aim of the volume is much the same, though the classification and arrangement of subjects is somewhat different. There is one matter on which we find all three authors in agreement, and that is the beneficial action of antitoxin in the treatment of diphtheria. There seems to be no doubt whatever in the minds of pediatric physicians that the introduction of this method of treatment has had a most pronounced influence in reducing the death-rate of this disease, especially in laryngeal cases. This is in agreement with our own experience.

Dr. Ireland's treatise deals with a special aspect of the diseases of early life, and in a most comprehensive and learned manner. The recognition of the types of idiocy in young children is a matter of great difficulty to the young practitioner; and the subject is one which has been becoming of greater importance in practice year by year. Dr. Ireland has laid the profession under a debt of gratitude by publishing his exhaustive studies, which deal not only with the different types, but with the methods of treatment and education. The book is readable and most instructive, and we cordially recommend it.

A Manual of Diseases of the Nervous System. By SIR W. R. GOWERS, M.D., F.R.C.P., F.R.S. Third Edition. Edited by SIR W. R. GOWERS and JAMES TAYLOR, M.A., M.D. Vol. I: Diseases of the Nerves and Spinal Cord. London: J. & A. Churchill. 1899.

WE most cordially welcome the appearance of the first volume of the third edition of Gowers' well-known *Manual of Diseases of the Nervous System.* That in twelve years so large a work on a special branch of medicine should have reached its third edition is sufficient indication of the high esteem in which it is held by the profession, and needs no further comment here. Since its first appearance the work has taken rank as a standard authority, and when we consider that "in the present edition every chapter has been subjected to careful revision, and numerous additions have been made," we may safely predict that it will continue so to rank.

A Treatise on Human Anatomy. By Various Authors. Edited by HENRY MORRIS, M.A. and M.B. Lond. Second Edition, Revised and Enlarged. Illustrated by 790 Woodcuts (many of them in Colours). London: J. & A. Churchill. 1898.

WE have pleasure in directing the attention of our readers to the publication of the second edition of this well-known treatise on anatomy. The first edition appeared in 1893, and the present has been carefully revised both in regard to the descriptive text and the illustrations. A description of the skin has been added by Mr. Anderson, and Dr. Robinson has supplied an additional section on "Vestigial and Abnormal Structures." The illustrations are of great artistic merit, and the colour printing has been most satisfactorily carried out. We cordially recommend the work.

A Text-Book upon the Pathogenic Bacteria. By JOSEPH M'FARLAND, M.D. Second Edition. London: Henry Kimpton. 1898.

WE have long been familiar with the first edition of this work, and cordially welcome this new edition. The work has been carefully revised and enlarged, and throughout, the author has endeavoured to bring his work up to date. The *technique* of bacteriology is very clearly and fully described, and in this respect no better guide can be put in the hands of students. A number of new chapters have been added, dealing with the bacteriology of yellow fever, mumps, swine plague, &c.; the bacillus aerogenes capsulatus and the proteus vulgaris are fully described; and the methods of determining the thermal death-point and the value of antiseptics and germicides are also given.

The arrangement of the work is similar to that of the first edition. The book is divided into two parts, the first treating the subject generally, and the second giving a description of the specific diseases and their bacteria. In the first part, after giving, by way of introduction, a complete and interesting account of the history of bacteriology, the author, in fourteen chapters, treats of such subjects as the biology of bacteria; immunity and susceptibility; methods of observing, cultivating, and recognising bacteria; sterilisation and disinfection; experimentation upon animals; the examination of air, soil, water, &c., &c. The second part he subdivides into (1) the phlogistic diseases, (2) the toxic diseases, (3) the septic diseases, and (4) miscellaneous diseases. The phlogistic diseases are further subdivided into (*a*) acute inflammatory diseases and (*b*) chronic inflammatory diseases. References to original papers are given throughout the work in the form of footnotes. While the aim of the author has mainly been to describe the pathogenic bacteria, he has, wisely, we think, likewise described such micro-organisms as the bacillus coli communis, and a number of spirilla which resemble the vibrio of cholera. While the work is mainly intended for medical students, it will also be found useful for reference by those engaged in general practice. There are 134 excellent illustrations, the majority being reproductions from the *Atlas der Bakterienkunde* by Fränkel and Pfeiffer.

A Manual of Otology. By GORHAM BACON, M.D. New York. London: Henry Kimpton. 1899.

THE avowed object of the author of this book is to meet the demands of the student by giving him a short and compact treatise on the subject, and at the same time to afford him a book of easy reference.

The subject of otology in relation to brain surgery has been much in evidence within recent years, but it must ever be kept in mind that by early, judicious, and continued treatment of simple middle-ear inflammation, cases of sinus thrombosis, of cerebral and cerebellar abscess, would be much less common. The importance of giving careful attention to aural diseases, and particularly to inflammatory affections of the middle ear, cannot be too frequently repeated nor too strongly urged on the family physician.

The manual before us, as it gives a clear and concise account of the present-day knowledge of the subject of otology, is one to be commended to the notice of students and to those practitioners who have not had the opportunity of practical instruction in the diagnosis and treatment of aural affections.

While thus recommending this book as a suitable guide to the student, there are some points which, if critically inclined, we would take exception to. One only will be referred to, and that is the manner of using the anæsthetic recommended in the removal of post-nasal adenoids. He says that whilst in adults the adenoid hypertrophy can be removed without an anæsthetic in many instances, "in children, according to my experience, it is always advisable to use ether or chloroform. Ether is to be preferred as being safer. Whichever one is used, the patient should not be completely anæsthetised, for fear of blood entering the trachea." Without further reference to the choice of an anæsthetic than to say that in this operation we consider chloroform much safer than ether, our opinion is that the danger lies in the adoption of the recommendation contained in the last sentence quoted. The patient should be fully unconscious—there is then no struggling, the growth can be carefully and completely removed, and with the head in the appropriate position, no blood gets below the level of the soft palate. It is the struggling half-anæsthetised patient who gets blood into his trachea.

The book is illustrated by numerous woodcuts and one coloured plate of an abscess of cerebellum secondary to chronic suppurative otitis media; and there is a very full index.

Notes on Surgery for Nurses. By JOSEPH BELL, M.B., F.R.C.S. Edin. Fifth Edition, Edinburgh: Oliver & Boyd. 1899.

IT is now twelve years since the first edition of this excellent little book was published. This, with the fact that it has reached a fifth edition, is of itself a sufficient guarantee that it has amply fulfilled its purpose, without any further remark.

The only difference in this edition is the addition of an appendix, perhaps, to a medical man, the most interesting part of the book. The relation of the trained nurse to the profession and to the public is here considered, and much sound advice is given.

It is no doubt true that too much is often expected from the nurse. A nurse tritely put it to Dr. Bell thus:—"That the patient's friends expected her to be a judicious blend of an angel, a horse, and a steam-crane." But it is also true that the demands and requirements of the trained nurse often exceed those of the patient himself, and her presence is sometimes, perhaps, more a hindrance than a help. This latter, we believe, however, to be the exception.

The book is divided into twelve chapters, each taking up a special subject. The first chapter on inflammation is illustrated by a diagram, which greatly simplifies the proper understanding of what must seem to the nurse a most complex subject.

We heartily recommend this manual to every nurse.

Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment. By PROF. FRANZ MRACEK. Authorised Translation from the German. Edited by L. BOLTON BANGS, M.D. With 71 Coloured Plates. London: The Rebman Publishing Co., Limited. 1898.

THIS is one of the handiest and cheapest atlases of venereal diseases that we have yet seen. There are 71 plates, beautifully executed and most illustrative of the various forms of syphilitic and venereal manifestations. The price (15s. net) is such as to bring it within the reach of all medical men and students, and we are sure that for purposes of reference in dealing with actual cases they will find it of the greatest service. We have no hesitation in recommending it to our readers. This volume forms the fifth of a series of hand atlases published by the Rebman Company, and in our opinion it is the best. The first, on Clinical Diagnosis, we have already noticed. The remaining three deal with Legal Medicine (Hoffman), Diseases of the Larynx (Grünwald), and Operative Surgery (Zuckerkandl), and though all of them will prove useful, especially that on legal medicine, we do not think that any of them are likely to be of such great service to the practitioner as that on syphilis.

An Atlas of Bacteriology. By CHARLES SLATER, M.A., M.B., and EDMUND SPITTA, L.R.C.P. Lond., M.R.C.S. Eng. London: The Scientific Press, Limited. 1898.

IN this work we have 111 original photo-micrographs, which have been taken from fairly typical cultures and cover-glass preparations of the micro-organisms as are usually met with and made by students of bacteriology. It will thus be found useful for reference and comparison both by students and teachers of this subject. Moreover, the moderate price of this work will enable it to reach the hands of students who, owing to cost, are prevented from possessing the excellent *Atlas der Bakterienkunde* by Fränkel and Pfeiffer. As showing how complete this series of photographs is, we may mention that we have in this atlas 10 illustrations of the bacillus anthracis, 8 of tubercle bacillus, 8 of bacillus typhosus, 7 of bacillus diphtheriæ, 8 of vibrio choleræ, and 5 of plasmodium malariæ. The illustrations are excellent throughout, equal to, and in some cases, we think, excelling those in the larger and more costly atlas already referred to.

As regards the letterpress, we have some objection to offer. The descriptions are not so complete as to make this a text-book of bacteriology, and yet they are so complete that in no sense can they be described as merely explanatory. We should have preferred to have had short explanatory notes on each photograph, and these should have been given either at the beginning or end of the book, and not interleaved, as at present, with the plates. In spite of this defect, which we hope to see remedied in future editions (with perhaps a few micro-photographs of the most common non-pathogenic bacteria), we can strongly recommend this atlas to all students of bacteriology.

The Natural History of Digestion. By A. LOCKHART GILLESPIE, M.D., F.R.C.P. Ed., F.R.S. Ed. Illustrated by Figures, Diagrams, and Charts. London: Walter Scott, Limited. 1898.

THIS work takes a wide survey of the digestive process as it occurs in the vegetable and animal kingdoms. Commencing with a sketch of the ancient theories of digestion in animals and plants, it goes on to consider the subjects of metabolism and digestion in vegetables—a special chapter being devoted to the different varieties of carnivorous plants. This is followed by a chapter on the development and structure of the alimentary canal, and by another on unorganised and organised ferments. The food elements are next considered—carbohydrates, proteids, and fats. Then follow chapters on digestion, absorption from the alimentary canal, micro-organisms of the alimentary tract, and the influence of the nervous system on digestion. The twelfth chapter is a comparative study of digestion in animals. The remainder of the text is devoted to the senses (smell, taste, hunger, thirst), metabolism in animals, dietetics and animal heat, stimulants, and, finally, food. In addition to this, there are numerous figures, diagrams, charts, and tables of various kinds, all of which, together with indices of authors, generic names, and subjects, greatly enhance the value of a book which does immense credit to its author. It represents a vast amount of labour, and is besides one of the most interesting of the books of this series which we have examined. Of course, we do not profess to accept as absolutely valid every part of the writer's teaching; and, if we can judge from the preface, he is himself alive to the possibility that he may be accused of not judging the vegetarian position in a fair spirit. We wish, too, that the question of the nutritive value of beef tea could be settled soon. Its present indeterminate position might be illustrated by putting side by side the remarks made upon it in this volume, and those of Dr. Burney Yeo in his recently published work. It is easy, however, to find some little things to grumble at in the midst of so much that is excellent.

The Edinburgh Medical Journal. Edited by G. A. GIBSON, M.D., F.R.C.P. Ed. New Series, Vol. IV. Edinburgh and London: Young J. Pentland. 1898.

THIS handsome volume again presents evidences of the ability with which it is conducted. It contains thirty-seven original articles, an average of six per month. The abstracts from current medical literature strike us as specially good, and a considerable amount of attention is devoted to reports on new foods, drugs, &c. The last article is a valuable one on medical education in the United Kingdom. Altogether the *Journal* continues to deserve success.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

By W. R. JACK, M.D., B.Sc.

Serum-Therapy of Syphilis.—Neisser (*Arch. f. Derm. u. Syph.*, xliv) criticises the views on which the idea of serum-therapy in syphilis is based, and especially the almost universally accepted belief that an individual once attacked by syphilis is protected against future attacks. This view requires to be thoroughly reinvestigated. We really know only that the skin of a syphilitic does not present the characteristic induration after a fresh inoculation of the bacillus. This is not the same thing as immunity. The micro-organisms have not ceased to multiply in the blood, and are still capable of finding a nidus in all the organs, including the skin. We do not know, however, whether bacteria introduced a second time into the same organism can multiply or not. On the other hand, Neisser thinks it not improbable that certain hard nodules seen from time to time on the genitals of persons already syphilitic are to be referred to a new inoculation with the virus, even if they be not followed by typical secondaries.

The idea of serum-therapy is also based upon the belief that in the last centuries the course of syphilis has become much less virulent, and that this mitigation is due to saturation of the populace with the virus. But the fact is not beyond dispute, and much less so its interpretation. We know nothing from clinical observation of a really inherited and lasting immunity, tending to produce a mitigation of syphilis, increasing in the course of generations. Colles's law, too, which declares the temporary immunity of the apparently healthy mother of a child syphilitic by inheritance from the father, raises such a number of questions still unsolved regarding both the fact and its interpretation, that it cannot be made available as a basis for serum-therapy.

The experimental evidence collected by Neisser (experiments in part with the unaltered serum of animals, in part with that of "syphilised" animals or such as had been treated by mercury, in part with the serum of syphilitic men) has led to no certain therapeutic result. His own experience with twenty-eight patients, whom he injected with serum derived from persons in the late stages of syphilis, has not been happier. The most of his patients were treated before the appearance of general symptoms, yet the injections remained quite without effect, and the syphilis ran its normal course.

He also undertook experiments, with the view of ascertaining whether the serum had any preventive action, upon eight patients in whom the opportunities for contracting the disease were frequent. He injected serum, which had been completely freed from cells, subcutaneously in four cases. These remained immune even a year later. In four other cases, however, signs of syphilis afterwards appeared. Up to the present time, therefore, all the experiments with serum-therapy have given a completely negative result.—(From an abstract in the *Deutsche Med. Zeitung*, 12th January, 1899.)

A Case of Syringomyelia, departing from the Normal Type.—At the meeting of the *Berliner Gesellschaft für Psychiatrie und Nervenkrankheiten*, 9th January, 1899, Westphal reported the clinical phenomena in a patient who died in 1897. In 1893 she complained of weakness and stiffness of the lower, and later of the upper, limbs. The knee-jerks were at first increased; ankle-clonus was present, and also slight muscular atrophy. The electric responses were normal, and there was no fibrillary tremor. Latterly the spastic paralysis was succeeded by a paralytic condition in which spasm was not present, the knee-jerks were preserved, and the ankle-clonus was sometimes present, sometimes merely suggested. Clonic and painful contractions followed. Until near the end the bladder and rectum were not affected. Somewhat earlier there were lanciuating pains in the left leg, along with paræsthesiæ and a sense of numbness in the extremities. Heat and cold were felt normally, but later there was a loss of the sense of pain and temperature. There were later disturbances of sensibility, and diminution of the sense of touch in the lower limbs. Trophic changes appeared only at the last. They consisted in the formation of vesicles, bedsore, and affection of the right ankle-joint. At the same time nystagmus, fibrillary tremors, shaking and nodding of the head were noted. The speech was slow and scanning. Headache and vertigo were also experienced. The patient finally suffered from hallucinations. The pupils were contracted and did not respond to light. The diagnosis at first leant to a chronic syphilitic meningitis; but later syringomyelia was diagnosed, although the differences from the ordinary clinical phenomena were obvious. *Post-mortem* it was found that the changes were syphilitic in their nature. There was a thickening of the spinal cord, which also showed formation of cavities in its substance.—(*Deutsche Med. Zeitung*, 30th January, 1899.)

The Clinical Significance of the Diazo-Reaction.—Michaelis, at the meeting of the *Verein für Innere Medizin in Berlin*, 30th January, 1899, said that Ehrlich had shown in 1882 that the red colouration of the urine, resulting from the diazo-reaction, was of value in the diagnosis of enteric fever. The reaction was certainly to be found in other diseases, and thus its value had been neglected. Since 1891 Michaelis had been working upon the subject, and had found no positive results unless under pathological conditions. In enteric fever the red colouration of the urine was always present, appeared very early, and lasted for from five to eight days. At that time it usually disappeared; but sometimes it persisted, and such cases were without exception grave. The reaction was of importance at the beginning of enteric fever, as it occurred before the other clinical phenomena (rose-spots, enlargement of the spleen, &c.) were markedly developed. The intensity of the reaction, and its persistence, were an indication of the gravity of the case. If there were no reaction on the eighth or tenth day the disease was likely to have a mild course, although relapses might occur.

In other affections the reaction was sometimes positive and sometimes negative.

1. It was, as a rule, negative in chronic non-infective diseases, as those of the cord, the heart, &c.
2. It was positive in diseases where it always appeared from the first—enteric fever and measles. In them the diazo-reaction disappeared as the exanthem became less marked; and if it did not, a complication such as pneumonia was to be looked for.
3. There were diseases in which the reaction was usually absent, but sometimes appeared (erysipelas, pneumonia, diphtheria). Its appearance indicated the severity of the infection.
4. Finally, there were diseases in which there was no trace of the reaction in mild cases, but it became distinct as the case became severe. Phthisis pulmonalis was a prominent example.

If the reaction were positive in this last-named disease the prognosis was uniformly bad, and the same was true of caseous pneumonia. The reaction was quite independent of fever, although the two symptoms often coincided; and it was independent, also, of the other clinical phenomena of the illness, being related only to the gravity of the case.

The test should be performed according to Ehrlich's directions—so-called improvements have proved to be mistakes.

The reaction is of varying value in the various infective diseases:—

1. It is nearly always present in enteric fever and in measles (not in rubeola).

2. It is valuable as indicating the course of the disease, and hence the prognosis.

3. In diseases where it is not always present its appearance indicates a grave prognosis, and in phthisis the prognosis is of the gravest.

In the discussion which followed, Ehrlich said that the paper had confirmed his observations. The reaction was of value both for diagnosis and prognosis. He cited the case of a drunkard brought to the Charité. He was merely drunk, and was dismissed at once; but on that first examination the diazo-reaction was quite positive. Six months later he was re-admitted with phthisis pulmonalis, latent on the first admission. A second case was that of a patient suffering from rheumatic fever, where the lungs were apparently normal, but the reaction was present. Three months later he returned with well-marked phthisis. The reaction was especially important in enteric fever, and in such cases it justified its existence even in comparison with Widal's reaction, because it appeared much earlier, enabled the attendant to determine the prognosis, and indicated the onset of a relapse.

Other speakers, and among them A. Baginsky, emphasised the value and importance of the diazo-reaction, both for diagnosis and prognosis.—(*Deutsche Med. Zeitung*, 6th February, 1899.)

Erythromelalgia: Morbid Anatomy of the Tissue from an Amputated Toe (S. Weir Mitchell and William G. Spiller, *American Journal of Medical Science*, January, 1899).—Weir Mitchell having succeeded in permanently curing a case of erythromelalgia by stretching one nerve and dividing others, carried out the same operative procedure in another case, but with an unsatisfactory result, since gangrene ensued. It was ascertained in this instance that the walls of the small arteries were much thickened. In a third case—to a report of which the present paper is specially devoted—it was scarcely possible to feel any arterial pulsation in the affected limb below the groin. It was therefore decided to remove the right great toe and half of the metatarsal bone, the disease being apparently limited to the toe. Some sloughing of tissue took place after the operation, and the wound healed slowly. Moreover, from the time of operation to the date of reporting (about eight months), patient had been liable to symptoms of the disease in the remainder of the foot, so that the writers were not very sanguine as to his future.

In the nerves of the affected toe, the nerve fibres were almost completely destroyed, whilst the connective tissue was much thickened. The media and intima of the arteries were thickened, the latter to an extraordinary degree, so that in some vessels the lumen was almost obliterated. In some parts the media was more altered than the intima. The walls of the veins were also thickened. The bones were somewhat enlarged.

Weir Mitchell was formerly disposed to look upon erythromelalgia as spinal, but now inclines to the theory of neuritis.—T. K. M.

Books, Pamphlets, &c., Received.

Elementary Physiology, by Benjamin Moore, M.A. With 125 Illustrations. London: Longmans, Green & Co. 1899. (3s. 6d.)

Verhandlungen der Berliner medicinischen Gesellschaft aus dem Gesellschaftsjahre, 1898. Band XXIX. Berlin: L. Schumacher. 1899.

Notes on Surgery for Nurses, by Joseph Bell, M.D. Fifth Edition. Edinburgh: Oliver & Boyd. 1899. (2s. 6d.)

Dictionary of Medical Terms. English—French, by H. de Méric. London: Baillière, Tindall & Cox. 1899. (5s. net.)

The Year-Book of Treatment for 1899. Illustrated. London: Cassell & Co., Limited. 1899.

The Thermal Waters of Bath, by Gilbert A. Bannatyne, M.D. Bristol: John Wright & Co. 1899. (2s.)

An Atlas of Illustrations of Pathology—Lymphatic System—Fasciculus XII. London: The New Sydenham Society. 1898.

Physician's Book for Private Formulæ, with Posological Tables. Bristol: John Wright & Co. (2s. and 2s. 6d.)

Manual of the Diseases of Children, by John Madison Taylor, M.D. and Wm. H. Wells, M.D. Illustrated. London: H. Kimpton. 1899. (18s. net.)

General Physiology: An Outline of the Science of Life, by Max Verworn, M.D., Ph.D.; Translated from the Second German Edition and Edited by Frederic S. Lee, Ph.D. With 285 Illustrations. London: Macmillan & Co., Limited. 1899. (15s. net.)

A Century of Vaccination and What it Teaches, by W. Scott Tebb, M.A., M.D., D.P.H. Second Edition. London: Swan, Sonnenschein & Co., Limited. 1899. (6s.)

The Treatment of Lateral Curvature of the Spine, with Appendix giving Analysis of One Thousand Cases, by Bernard Roth, F.R.C S. Second Edition. London: H. K. Lewis. 1899. (10s. 6d.)

On the Principles which Govern Treatment in Diseases and Disorders of the Heart: The Lumleian Lectures delivered before the Royal College of Physicians in London by Sir R. Douglas Powell, Bart., M.D. London: H. K. Lewis. 1899. (6s.)

The Power of Nature in Disease, by J. Wallace Anderson, M.D. Edinburgh: William F. Clay. 1899. (1s. 6d.)

A Treatise on Human Anatomy, by Various Authors, edited by Henry Morris, M.A., M.B. Lond. Second Edition, revised and enlarged. Illustrated by 790 Woodcuts (many of them in several colours). London: J. & A. Churchill. 1898. (36s.)

A Manual of Diseases of the Nervous System, by Sir W. R. Gowers, M.D. Third Edition, edited by Sir W. R. Gowers and James Taylor, M.A., M.D. Vol. I: Diseases of the Nerves and Spinal Cord. London: J. & A. Churchill. 1899. (15s.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 18TH FEBRUARY, 1899.

	WEEK ENDING			
	Jan. 28.	Feb. 4.	Feb. 11.	Feb. 18.
Mean temperature,	31·5°	33·4°	41·4°	44·3°
Mean range of temperature between day and night,	12·3°	11·6°	9·8°	11·0°
Number of days on which rain fell,	1	0	7	5
Amount of rainfall, ins.	0·08	0·0	1·24	0·66
Deaths registered,	330	469	494	452
Death-rates,	23·4	33·2	35·0	32·0
Zymotic death-rates,	2·5	3·0	2·7	2·6
Pulmonary death-rates,	8·0	14·6	17·2	12·8
DEATHS—				
Under 1 year,	59	77	76	95
60 years and upwards,	83	117	139	98
DEATHS FROM—				
Small-pox,	...	...	...	...
Measles,	7	1	6	5
Scarlet fever,	7	5	3	7
Diphtheria,	4	3	3	1
Whooping-cough,	12	25	15	11
Fever,	1	0	4	6
Diarrhœa,	4	8	7	6
Croup and laryngitis,	2	2	3	2
Bronchitis, pneumonia, and pleurisy,	93	173	216	163
CASES REPORTED—				
Small-pox,	...	...	...	...
Diphtheria and membranous croup,	11	12	8	13
Erysipelas,	25	14	25	19
Scarlet fever,	91	73	114	97
Typhus fever,	...	1	...	...
Enteric fever,	23	18	25	20
Continued fever,	...	...	1	...
Puerperal fever,	1	3	5	2
Measles,*	32	46	66	53

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *22nd February, 1899.*

THE

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ORIGINAL ARTICLES.

AMPUTATIONS.[1]

By WILLIAM JAMES FLEMING, M.D.

Amputations have always been looked upon as affording probably the best example on which to found comparisons of surgical work. This is because of their uniformity, when taken in large numbers, and because they involve, under all circumstances, nearly the same operative procedure and a similar extent of open wound. In addition to this the conditions which necessitate amputation are practically the same in any sufficient series of cases. For these reasons, I have selected them as a basis on which to bring before you to-night some statistics of the Royal Infirmary, and some conclusions which my recent ten years' surgical work there have led me to form. We have available the records of amputations in the Royal Infirmary for over one hundred years. These have been collected by Dr. Laurie from the years 1794 to 1838; by Dr. Steele, from 1838 to 1848; and by Dr. Thomas, from 1849 to 1873. The great uniformity in results which now obtains, and the immensely increased number of amputations performed, has made it unnecessary for me to attempt to complete the record from 1873 to the present date; but I have extracted the total amputations during the ten years 1885 to 1895, and also my own results during the same period. It will be noticed that those various sets of records group themselves naturally under three great surgical eras. The statistics collected by Drs. Laurie and Steele from 1794 to 1848 are part of the pre-anæsthetic era; Dr. Thomas' statistics, 1848 to 1873, cover the period of anæsthesia without antisepsis, while during the ten years 1885 to 1895, both those great surgical discoveries were uniformly employed. It is true that antisepsis had been initiated in our wards several years before 1873, but those of you who, like myself, were familiar with the practice of the day will remember that, although already largely influencing our results, it was then by no means universally practised by the surgeons, indeed, by some was bitterly opposed, and therefore can have had only a small influence upon Dr. Thomas' statistics, extending as they do over twenty-five years. The most striking thing in these tables is the comparison of the recent statistics with those of the past—coming, as they all do, from one hospital, and from what I may describe as the same school of surgery, they can be fairly compared. It will be noted that the percentage mortality for all amputations above the wrist and ankle was greater in the second period, 1838 to 1848, than from 1794 to 1838. It is a little difficult to understand the causes of this, but it is probably due in great part to the increasing boldness of surgeons, justified by considerably improved methods of performing the actual amputations, and especially of arresting bleeding, leading them to operate upon cases which, in the hands of their predecessors, would have been considered hopeless, and therefore unsuitable for interference. At anyrate, both the statistics give what we would now consider a terrible mortality. The third period, which can be most fairly compared with the second, is characterised by a marked decrease of the mortality, and a great increase in the number of amputations. It is interesting to notice that during the

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[1] Presidential address delivered to the Glasgow Pathological and Clinical Society on 15th February, 1899.

AMPUTATIONS—ABOVE WRIST AND ANKLE.

	Laurie. 1794—1838.	Steele. 1838—1848.	Thomas. 1849—1873.	G. R. I. 1885—1895.	Fleming. 1885—1895.
Numbers, .	271	284	970	774	160
Deaths, .	98	122	344	132	25
Per cent, .	36·16	42·95	35·74	17·0	15·62

years embraced in the first period, only 6·7 amputations per annum were performed; while there were during the second period, 28·4; during the third period, 38·8; and during the fourth period, 77·4 annually.

It is obvious that the rise in the third period was due to the use of anæsthetics, and the increased number of surgical beds. The greater number in the fourth period is explained by the greater security given to all operative procedures by antiseptic surgery, and by further increase in the surgical accommodation.

Antiseptic surgery also accounts, I believe, entirely for the brilliant reduction in the mortality. So far as I can judge, these statistics include all amputations, even those primary cases in which the patient did not survive for forty-eight hours, which are so often excluded from hospital mortality statistics. Certainly, in the later period, no such exception has been made.

The revolution achieved by Lord Lister is strikingly shown; when calculating from these statistics, it appears that in cases of amputation alone, one hundred and fifty-six lives were saved during ten years in the Glasgow Royal Infirmary. It must also be borne in mind that the same cause which reduced the mortality, probably in even a greater proportion saved limbs which would previously have been amputated.

The next table gives the ten years' amputations, including the wrist and ankle, performed from 1885 to 1895—first, by all the surgeons of the infirmary, and, secondly, by myself. This table is principally of interest because it seems to me in a remarkable manner to confirm the accuracy of the figures, and to show how little the personal element affects the results. During these years I had charge of almost exactly one-fifth of the surgical beds, and you will observe that within a decimal point I performed one-fifth of the amputations with practically the same mortality.

TEN YEARS' (1885—1895) AMPUTATIONS, INCLUDING WRIST AND ANKLE.

	ROYAL INFIRMARY.	AUTHOR.
Numbers, ...	1,031	206
Deaths, ...	147	29
Per cent, ...	14·16	14·07

Considering next the relative mortalities of amputations, classed as primary, secondary, and for disease, and comparing Dr. Thomas' statistics with the total hospital numbers for the selected ten years, we find that in the primary amputations there was a diminution of mortality of 17·4 per cent; in the secondary, of 31·5 per cent; and of those from disease, of 12·1 per cent. These differences quite coincide with what we would expect to be the effect produced by antisepsis. The most marked difference is in the secondary amputations, because it is in this class of case that septic mischief is so generally fatal.

PERCENTAGE MORTALITY.

	PRIMARY.	SECONDARY.	DISEASE.
	Per cent.	Per cent.	Per cent.
Dr. Thomas, . . .	36·5	51·7	21·9
G. R. I. (ten years), . .	19·1	20·2	9·2
Differences, . .	17·4	31·5	12·7

To turn now to my personal views and conclusions, I have a few remarks to make upon methods of amputation—after treatment—and circumstances necessitating this operation.

In regard to methods of amputation, I have little to say. I attach importance to making the incisions at right angles to the skin, so as to avoid bevelling. I know this is an elementary rule of operative surgery, but especially in amputation it is more difficult than one would think to carry out, and a point in which many surgeons fail. The ease with which the skin of the flaps can be adjusted, when this has been attended to, is in marked contrast to the difficulty when the skin has been divided obliquely. I avoid any redundancy of the flaps. The more I am in doubt as to their viability, the shorter am I inclined to make them. The base is the same in either case. Through it is derived the nutrition—a definite and limited blood supply—and the less tissue this has to provide for, the better will what there is be nourished. I have heard surgeons say they made large flaps, in case of part of them dying. I consider this is the best way to ensure it. I advise every surgeon to acquire sufficient dexterity with his left hand to at least make incisions in amputating with it. Standing in front of a limb, especially the thigh, it is much easier and better, after making the incision as far as possible with the right hand, to transfer the knife to the left and complete the cuts, than to pass behind the assistant holding the limb, so as to reach the other side. In cases where the condition of the patient, either from shock or exhaustion, calls for the utmost possible rapidity of operation, I secure the main vessels only, and pack the stump with sponges or masses of gauze, enveloped in perforated green protective. A few silkworm-gut stitches are put in and tied in a reef bow with the ends left long, so as to keep the packing in place and the flaps approximately in position. I then bandage with a damp gauze roller next the skin; then apply a resilient dressing, such as absorbent medicated cotton, and over all, a light elastic bandage. About forty-eight hours afterwards the plugs can be removed with ease and without pain to the patient, thanks to the smooth protective and the facility with which the bow stitches can be released. No bleeding takes place. The flaps are adjusted with the aid of the sutures already in position, and if necessary a few more, aided by carefully adjusted pressure. Union is generally rapid. In all cases where shock exists or may be expected, very great advantage is derived from the use of a large tin, completely covering the operating table, filled with hot water. I made an arrangement by which a constant current of water at the desired temperature was conveyed by a hose from the water-taps in the theatre, caused to circulate through the tin, and run off by the waste pipe. By this means a constant temperature can be maintained during the most prolonged operations. An intelligent nurse must be told off to watch it, as from changes in the pressure in the water main, extremes of heat and cold may otherwise arise unnoticed. I dislike all mechanical operating tables. Two plain strong deal tables of different height are all that the most exacting surgeon can require, if he knows how to use them.

All surgeons now save a large number of limbs, which not very long ago they would have amputated. As a rule, I never amputate primarily, except when the main vessels are destroyed. I do not mean that I reserve these cases for secondary operation in the true sense of the word, or that I save them all, but I take great care to make them aseptic—as I often express it, I "pickle" them—and after a few days can see exactly how much can be saved, how much must be removed. By "pickling" I mean rendering and keeping aseptic. It is often very difficult to accomplish, especially the rendering. However, it is fortunate that "dirt" is not always surgically unclean. This holds especially good with the very black material compounded chiefly of oil and finely powdered metal with which the recipients of machinery accidents and their wounds are usually liberally begrimed. Perhaps the almost universal use which is now made of the antiseptic mineral oils for lubricating purposes, helps to explain the frequency with which the presence of this form of dirt in a wound is compatible with asepticity, but in addition we must remember the affinity of carbolic acid for oil, in consequence of which greasy dirt is easily disinfected by that agent. Carbolic acid, 1 to 20 in water, or in some cases 1 to 10 spirit, is the best thing to use in such cases, although I have had very successful results with mercury. I cannot help thinking that the volatility of carbolic at the body temperature largely increases our chance of reaching every possible corner and cranny of the wound, and even to some extent of penetrating blood clot, in which mischief may lurk. In its application, and in that of the soap and water which, of course, precedes its use, I have great faith in the virtues of a firmly handled nailbrush. Turpentine, ether, and spirit are also useful auxiliaries, and the free dusting and rubbing in of iodoform is essential. While avoiding undue tension and retention of discharge, I always adjust the tissues with silkworm-gut stitches, however much they may seem injured.

Where possible, bleeding should always be absolutely controlled during the dressing by an elastic tourniquet, and this should be an ordinary broad elastic bandage. I cannot deprecate too strongly the use of the elastic cord or even tube, which I am sorry to say is still supplied and recommended in many quarters for ambulance work. I have had several cases of sloughing of flaps due to its use, and in others have required to amputate higher up than would otherwise have been necessary had the flat bandage been used. The cumulative force of numerous turns of even feeble elastic bandage is very great, sufficient to control all the vessels of the extremities. It should be applied and removed rapidly, so as to arrest and relieve both the venous and arterial flow as nearly simultaneously as possible. The advantage of dealing with a dry wound, both in facility of manipulation and thoroughness in the application of the disinfecting agents, more than counterbalances the increase in subsequent capillary oozing which its use entails. As to the bleeding in the wound itself, every day I trust more and more to pressure carefully adjusted and less to ligature; even in an amputation I generally only ligate the vessels which can be found from their anatomical position or easily seen, and this before the removal of the tourniquet. I stitch, and except in very large wounds use no drain, but apply pads, and bandage so as firmly to press the raw surfaces against each other as far as possible. In the great majority of cases there is no oozing nor rise of temperature, and when the dressing is removed at the end of ten days or a fortnight, sometimes longer, the wound is found firmly united, at least the skin is. Not infrequently blood serum in considerable quantity is collected in the deeper part of the wound, but this is generally indicated either by a slight rise of temperature about the second or third day or by staining of the dressing. It is easily got rid of by the introduction of a director or pair of sinus forceps through the soft skin cicatrix, and seldom recurs or gives any trouble. If left alone it is absorbed, but this takes time and delays firm union. Most surgeons, I believe, endeavour by much ligation to get a dry wound before closing it. Theoretically this is most desirable, but I consider impossible in practice. Some blood is always effused and also serum. In fact generally, even after the greatest care in arresting hæmorrhage, the wound during the first few hours becomes filled with blood, and this effusion is only arrested when the pressure within the wound becomes sufficient to control it. I aim at arresting as much of the bleeding as possible by pressing the greatest extent of the surfaces of the wound against each other. Any spaces which are left must be filled with blood-clot and should be. If the skin is healed and all below it is aseptic, we have the same conditions as a simple fracture. A simple fracture behaves as the ideal wound. It should be our standard of comparison. Few lessons are more instructive and, curiously, few are less often demonstrated than the dissection of a recent simple fracture. In a large hospital many cases appear on the *post-mortem* table in which, besides the lethal injury, one or more simple fractures have been sustained. How seldom does the pathologist cut down upon the fracture and point out the great effusion of blood, the tearing of muscles, and, in short, how terrible a wound of the soft parts it would appear if on the surface. Few things are more instructive to the student and to ourselves. It is a great lesson in the value of the skin as an obstacle to sepsis. Close your skin, and the deep parts if aseptic will take care of themselves. Without phagocytosis the surgeon would be in a much worse position than he is. But we do not yet, perhaps never will, know how far we can trust to it. I feel that at present at anyrate we can only hope that it may correct our errors. We dare not rely upon it. What, then, is the way in which we can best obtain immediate union of two freshly cut surfaces? Syme exposed his flaps till they "glazed," brought them together, and often got primary union. The exposure was the risk. Can we dispense with it? I believe we can. If we wash the surfaces of a clean cut with a strong alkaline solution of mercury bichloride we get the serum covering these surfaces coagulated, converted into a serum-sublimate. This is practically insoluble and closely corresponds to Syme's "glazing." It is, moreover, a perfectly sterile soil. From its insolubility it is very slowly absorbed, so that no constitutional poisoning takes place. Two raw surfaces thus prepared and brought in contact are rapidly glued, and the organisation of the fine intervening septum of serum-sublimate proceeds with marvellous speed. In reducing this theory to practice I wash my wounds with a strong solution, sometimes even 1 to 500, of sal alembroth, and then wash off any superfluity with a much weaker lotion, say 1 to 2,000. I dust well with iodoform, carefully close the wound, generally without drainage, and apply firm pressure so regulated as to bring the greatest possible area of the raw surfaces in contact. I have had no cases of either mercury or iodoform poisoning. In the matter of the mercury, I attribute this to the use of strong lotion producing an almost insoluble compound with the serum albumen. Iodoform used pure is also very slowly dissolved in the tissues. I once had the opportunity of examining the elbow in a case in which there was rupture of the kidney, from which the patient died in four or five days, where there had also been a compound dislocation of the elbow, with fracture of the olecranon. I had wired the olecranon and dusted freely with iodoform, and at the *post-mortem* much of the iodoform was found in the joint unaltered. We know that certain lower forms of life are killed by comparatively innocuous substances, which are harmless not only to higher forms but to other low forms, *e.g.*, sulphur and the itch insect. I can only, then, as a working hypothesis suppose that iodoform, although by no means experimentally shown to be a powerful or universal antiseptic, has a specific influence on some microbes which are common in wounds, and is deleterious to them.

I now comparatively rarely employ drainage in clean wounds, and, when from their great extent much serous exudation cannot be avoided, only for a short time. Absorbable drains have not been successful in my hands. If made of chicken-bone they either become at once filled with blood-clot or collapse into ribbons. Hanks of catgut are better, as they to a certain extent act as capillary drains, but as I like to remove whatever drain has been used in forty-eight hours, a strip of absorbent mercuric or iodoform gauze answers the purpose best in dealing with serum. For pus the rubber tube is by far the best.

For deep sutures, of course catgut, but for the skin silkworm-gut and horse-hair give me the most satisfactory results. With either silk or catgut you have more liability to stitch abscess, the stitch marks are worse, and the catgut never can be relied upon, especially if subjected to the slightest strain. If there is no strain upon them, continuous sutures of fine catgut often give good results. Wire I only use when buttons are necessary. If at all possible I avoid their use, as despite every precaution they almost always leave a stitch track which gives trouble.

After trying many dressings I have for some time used exclusively (1) absorbent gauze impregnated with sal alembroth, and outside this, if much discharge is expected, wood-wool bags; (2) boracic lint.

I have tried the various forms of zinc and mercury gauze, the preparation of which has been worked out so beautifully by Lord Lister, and have found them answer admirably, but not any better than the sal alembroth. They are dearer and more difficult of manipulation, and cannot so well be prepared by practically unskilled labour as can the sal alembroth.

Whether the Scottish skin is more resistant than that of the natives of other countries I do not know, but in only an infinitesimally small number of instances has irritation of the skin of any moment arisen in my experience from the use of the alembroth gauze. Very often pressure can best be applied by bandaging with the mercurial gauze in actual contact with the wound, thus applying the dressing in the form of a bandage.

One or more thicknesses—*but not a mass*—of this blue gauze, as it is generally called, are wrung out of mercuric solution and laid upon the wound, to make sure that no unsterilised dust is brought in contact with it. Above this a quantity of the dry dressing is placed, and, if necessary, a wood-wool pad.

Skin irritation, if it occurs, is almost always due to the use of such a large mass of wet gauze over the wound that it is a long time before it dries. Wet mercuric gauze is irritating, dry is not, to the average skin.

There is a point in connection with these dry mercurial dressings to which I desire to direct attention—viz., the amount of material required to ensure the asepticity of a wound.

When we used carbolic gauze it was necessary to employ a large mass, so as to obtain a sufficient quantity of the disinfecting agent, and also to include under the dressing a large area around the wound. The discharges were kept moist, and only prevented from putrefraction by a highly volatile agent, so that, whenever they escaped from the edge of the dressing, decomposition soon set in, and was apt to spread even under the dressing. With a dry mercurialised material not covered with waterproof, an entirely different set of conditions exist. The discharge which soaks into it is at once saturated with a powerful and soluble but non-volatile antiseptic and soon dries up, so that it is doubly protected from putrefactive changes. Hence it follows that any part of the dressing which is not saturated with discharge is of no use and is wasted. In consequence, a much smaller quantity is required, and it should be applied, not in such a way as to guard a large area surrounding the wound, but in the manner best calculated to rapidly absorb the discharge and permit it to dry, and in quantity just sufficient to deal with the amount of fluid likely to be poured out, with, of course, an ample margin for safety. Working on this principle a great reduction in the quantity of dressing used can be effected with safety and economy. The latter, especially in hospital practice, I consider deserves our most serious attention.

For all ulcers and superficial sores, and for others where a moist but unirritating dressing is desired, boracic lint is employed.

During the later part of the period under review, asepsis as opposed to antisepsis was strenuously advocated, and still is, by many surgeons. I gave it a fair trial, both in my own hands and those of my assistants, but never acquired confidence in it, and on theoretical grounds consider it a dangerous line of treatment. It is only applicable to a limited class of cases, those in which the wound is made by the surgeon. It can only be carried out successfully in hospitals and nursing homes with the aid of elaborate and expensive appliances and specially trained assistants and nurses. Where it is used, students see only surgical practice which they cannot possibly carry out afterwards in private, and they are not taught the methods which they can use. I have already seen the dire results of this in practitioners who, finding themselves unable to provide hospital appliances, and never having seen the simple *antiseptic* treatment, are compelled to leave their patients without the benefit of either. Those who practice the aseptic methods necessarily dread even the most remote connection with septic cases, make difficulties about receiving or treating them at all; and so lose the advantage which was originally the greatest claim of antiseptic surgery—the ability to treat cases successfully despite their surroundings.

And what do they gain? A supposed escape from the irritation of the germicides and that mental satisfaction afforded by the successful issue of a practice, theoretically possible, but so beset with difficulty that to carry it out requires a dexterity of which one is naturally proud.

Personally, as I have said above, I never found any of the evil effects for which germicides are blamed. With their aid I was able, as I consider my statistics show, to obtain as large a measure of freedom from septic mischief as I think any reasonable man can expect, and this without adopting the idea under the thrall of which the aseptic surgeon now lies—that septic cases are surgically anathema, and must not be allowed "to come betwixt the wind and his nobility," no matter what happens to the patients.

I maintain, and I was so taught by Lister, that one of the great beauties of antiseptic surgery lies in its capacity, intelligently and carefully employed, to exclude from our wounds the influence of surrounding sepsis. Even granting, which I do not, that successful asepsis, by avoiding chemical irritation permits slightly earlier healing, this is its only advantage that I know of, and is, I maintain, dearly bought at the price of the disadvantages I have enumerated. The only merit which I consider the system deserves, is that attempts to carry it out have taught us that septic mischief is more frequently introduced into a wound by solid than by aërial conduction, and that the disinfection of the human skin is one of the most difficult of tasks. These very lessons seem to me to point to the advantage of the greater security obtained by the application of germicides to our wounds. From the point of view of hospital management, in which I am now particulary interested, the question is very serious. On the one hand, no hospital manager, medical or lay, has any right to interfere with the method of treatment employed by any of the medical or surgical staff; but, on the other hand, the demands both for appliances, space, and nursing put forward by some of the extreme advocates of asepsis are beyond either the means or the accommodation at the disposal of hospital managers. I feel sure in a few years the difficulty will right itself, and, as in all previous cases in the history of medicine, the extremists will fall into line and a *via media* become the universal usage.

There is only one other point, with a few remarks upon which I will still detain you—that is the question of primary amputation during severe shock.

Experience has increased my inclination to hold my hand. No doubt each case must be judged on its merits. So far as I have been able to come to any guiding conclusion, it is that in cases where the injury is in itself probably fatal no operation should be performed. It is often said that "operation gives the only chance." I am, on the contrary, more and more convinced that it often destroys any faint prospect of survival the patient has. It used to be taught, and perhaps still is, that during profound shock amputation has no further depressing influence, but this I cannot bring myself to believe. At anyrate, the anæsthetic, even if ether be used, is followed by depression. Amputation is rarely necessary for the arrest of bleeding, and if a patient survives even a few hours the operation can be performed with greater chance of success, while if he dies almost immediately, the surgeon is saved an operation which he cannot help feeling was of no benefit to the patient, and the performance of which under these circumstances must always be a cause of regret. The old advocacy of primary amputation was based upon the terrible mortality of secondary, which was explained in a wrong way because sepsis was not recognised. I fear that some surgeons are still guided by the old rule, forgetting that it was based on conditions no longer existing. Nevertheless, few surgical decisions require more calm and experienced as well as rapid judgment, and give more anxiety, than in many cases the election between primary amputation and delay.

DEMONSTRATION OF CASES.[1]

By GEORGE S. MIDDLETON, M.A., M.D.,
Physician to the Glasgow Royal Infirmary.

I. *A case of hepatic pulsation.*

Epigastric pulsation is usually due to one of three causes—(1) Dilatation of the right ventricle; (2) communication from the abdominal aorta through something lying in front of it; or (3) aneurysm of the abdominal aorta.

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[1] Given at a meeting of the Glasgow Eastern Medical Society held on 21st December, 1898, in the Royal Infirmary.

In the man now before you there is readily seen a marked epigastric pulsation; but it is due to none of these causes, as it is a true pulsation of the liver. The liver expands with every cardiac impulse. This can be readily demonstrated by applying one hand over the liver in the epigastrium to the left of the middle line, and the other over the liver in the right lumbar region; the hands are separated with each impulse. Expansile pulsation is also characteristic of aneurysm; but that this is not a case of aneurysm is proved by the extremely wide distribution of the pulsation over what is evidently a greatly enlarged liver. The tracings shown have been taken from the epigastric pulsation, the jugular vein, and the radial artery; it is evident that the first two resemble each other, and differ from the third.

This is only the second case of the kind that has come under my notice. Hepatic pulsation once developed under my observation in the case of a man with enlargement of the liver under Professor Gairdner's care in the Western Infirmary some twelve years ago. The pulsation was as well marked as in the present case, and it is interesting to note that it disappeared before the patient was dismissed.

The condition is a recognised one, but it is rare. It indicates marked tricuspid regurgitation, the cardiac pulsations being conveyed through the hepatic vein to the liver. In only a few instances have *post-mortem* observations been made, and nothing has been seen to differentiate such livers from those affected with ordinary congestion from cardiac disease. There is no great dilatation of the veins of the liver, and nothing in the nature of an angioma.[1]

The man is a spirit salesman, 38 years of age, the subject of rheumatic endocarditis of probably twenty years' duration. Five years ago he had syphilis, and he also gives an alcoholic history.

He was first admitted under my care in July, 1896, with a cardiac condition the same as now, and with epigastric pulsation of the ordinary type. Since he was dismissed he has been able for work only very occasionally, breathlessness and palpitation being so troublesome. Swelling of the abdomen is now present, and for it he sought admission a month ago.

He was very livid, and the conjunctivæ were suffused but not jaundiced; these conditions are not now so apparent. The veins in the neck are distended, and pulsate. There has been no œdema observed anywhere.

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[1] See article by Dr. Frederick Taylor, *Guy's Hospital Reports*, 1875, p. 337.

The heart is greatly enlarged both to the right and to the left, and two murmurs are heard. These are ventricular-systolic and ventricular-diastolic in rhythm; from their characters and distribution they are now, as in 1896, regarded as indicative of mitral obstruction and regurgitation and tricuspid regurgitation.

The liver, as you see, is enormously enlarged. The urine contains only a trace of albumen. The lungs and pleuræ have practically escaped, and there is no ascites. Why the chief effect of the cardiac disorder has fallen on the liver, and why it has given rise to this peculiar pulsation, it is impossible to say.

II. *Dilatation of the stomach in a boy 12 years old.*

This boy presents all the signs of dilatation of the stomach as met with in an ordinary case of pyloric obstruction. You observe the localised bulging of the abdomen suggestive of that condition, and, as you watch him, you see a great peristaltic wave passing from the left hypochonder down below the umbilicus and up into the right hypochonder, where it disappears. This wave is readily elicited by rubbing the abdomen, or by shaking the boy. The latter also elicits Hippocratic succussion sound, evidently produced in a cavity extending from above the ensiform cartilage to below the umbilicus. There is also a history of occasional vomiting of large quantities of frothy sour material.

The suggestion might be made that this is a case of dilatation of the colon; that condition has been mistaken for dilatation of the stomach, and it is not always easy to differentiate them. In this case, however, there can be no doubt, for (1) the peristaltic wave always moves from left to right, a direction opposite to that in the colon; and (2) on washing out the stomach, the size of the abdomen is greatly reduced.

The apparent origin of his trouble must be referred to early infancy, when he suffered very greatly from vomiting. Since that time he has been regarded as having a "bad stomach," and for at least seven years undue splashing sounds have been heard in his abdomen. Pain has not been a prominent feature, but has occasionally been present, and apparently not dependent on the kind of food taken. There is no history of hæmorrhage from the stomach or bowels.

The boy is greatly emaciated (3 st. 3 lb.), pale, and flabby, but he makes little complaint. He has never been able to be at school, though he has tried it several times. Some five years ago, after one of these attempts, he had an attack of "inflammation of the brain," during which he was unconscious for a week.

No tumour can be felt in the neighbourhood of the pylorus, nor indeed anywhere. He has been examined both before and after having his stomach washed out, and nothing in the nature of tumour has ever been felt.

The hepatic dulness seems diminished in size, being somewhat encroached upon by the gastric note. The bowels, as a rule, are regular; but sometimes he has little attacks of diarrhœa, probably due to the irritation of scybala, which at times are felt.

The cardiac impulse is in the fifth intercostal space, slightly within the nipple line. The dulness extends somewhat unduly to the left, but the upper border is in its normal position. It is somewhat surprising that there is no displacement of the heart upwards. There is a rough ventricular-systolic murmur, which is transmitted more to the right than to the left of the apex impulse, and the pulmonic second sound is accentuated. He has never had rheumatism or rheumatic manifestations. The lungs are normal.

There is enlargement of the glands in the neck, and there was some œdema of the face and legs on admission. The urine is normal and contains no albumen.

Clifford Allbutt[1] and Comby[2] speak of dilatation of the stomach as being as common in children as in adults; but that is not my experience. I do not remember having seen any case like that before us in so young a subject. The dilatation to which these writers refer must be that arising from over- and bad feeding, giving origin to an atonic dyspepsia with distension. The child then presents a globular protuberance in the upper part of the abdomen as far down as the umbilicus, and perhaps even lower, and also undue Hippocratic succussion; but the bulging is more general than in this patient, and, being due to gastric atony, it presents no visible peristaltic movement.

In this boy there must be a pyloric obstruction, not absolute, but very considerable. Its duration precludes the possibility of its being of a malignant nature, and his age is also against that. There is no evidence to suggest that it may be due to an ulcer near the pylorus. I think that it is probably a congenital condition, in all likelihood of inflammatory origin, and either narrowing or compressing the pylorus.

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[1] *System of Medicine*, vol. iii.

[2] *Traité des Maladies de l'Enfance*, vol. ii.

The treatment adopted has been washing out the stomach, restriction of the diet to milk, &c. So far that has done no good.

[Dr. Adams saw the case in consultation, and we agreed that a laparotomy should be performed in the hope of discovering and removing the cause of the obstruction; but permission was not granted, and the boy was removed.]

III. *A case of general paralysis of the insane.*

This patient is shown because he presents several of the typical features of general paralysis, a disease of common occurrence, but often not diagnosed till it reaches a somewhat advanced stage.

You observe that his facial expression is somewhat vacant and dull. His articulation is very defective; he speaks in a somewhat hesitating way and slurs many of the words. When he protrudes his tongue, you see that it trembles and that there is a great deal of twitching about the lips. While you watch him, you will see that there is a great deal of general tremor, like that of one shivering with cold. This tremor is well seen on asking him to write; his hand shakes, so that the letters are slowly formed in a tremulous way, and it is further to be noted that he often omits letters out of words. So also he cannot readily perform fine movements with his fingers, such as picking up a pin. The muscular power generally is weak, without any absolute paralysis. There is some hesitancy in his gait, and staggering, when he attempts to walk rapidly, but at other times he can walk heel to toe fairly well. He can stand with his eyes shut and his feet close together without swaying.

The pupils are contracted, and sometimes show a difference in size. They do not respond to light or on accommodation.

The facial expression, the articulation, the tremor of the lips, and the condition of the pupils raised the question of general paralysis, and this diagnosis was confirmed by the history. Some two years ago he had an attack of giddiness, when tremor of the arms was first noticed. Some time later a change in his behaviour was noticed; he had been very dissipated, and now he was obtrusively pious. After that the impairment of articulation was observed, and his memory became defective. He does not seem ever to have shown in a marked way the grandiose or extravagant ideas so frequently met with in those suffering from this disease, but he had a "good conceit of himself," even when others saw that he was quite unable to do his work, so that he could see no reason for being dismissed from his employment.

There can be no doubt now that this is a case of general paralysis, though it would probably have been impossible to diagnose it at the onset. The disease generally comes on in men about his time of life (36 years) or a very little older, and is often referred to abuse of alcohol and sexual excesses, to both of which he has been addicted. It occurs in many various forms, but two types have been differentiated, the one the tabetic and the other the spastic. This case belongs to the latter and more common type, for there is marked exaggeration of the knee reflexes, and the superficial reflexes are all exaggerated, while in the tabetic variety these are absent.

I am not aware that treatment is ever of any avail in such cases. They run a comparatively rapid course for chronic nervous disorders, seldom surviving for three years, death frequently occurring in one of the "congestive attacks" to which general paralytics are so liable.

IV. *A case of rheumatoid arthritis.*

When I first saw this man I made the mistake of regarding him as the subject of a spinal cord lesion. His complaint is of loss of power in both legs, and you see that he cannot stand or walk without the assistance of a stick, and that he cannot fully extend the legs at the knees. There is great atrophy of the muscles of the thighs and legs, but no spasm and no tremor. The knee-jerks are greatly exaggerated, and occasionally ankle clonus can be elicited. There are no other nervous phenomena.

The history of the case and the condition of the knees give the clue to the correct diagnosis. In July last he was attacked with rheumatic or rheumatoid arthritis, affecting both knees and no other joints. He has been bed-ridden since that time. The knee-joints are both apparently much enlarged; no doubt the ends of the bones forming the joints are increased in size, but the appearance of enlargement is greatly added to by the atrophy of the tissues above and below the joints.

I do not think that we are sufficiently alive to the atrophy associated with joint diseases, and to the exaggeration of the knee-jerks which often, but by no means always, accompanies rheumatoid arthritis of the knees. This case emphasises both.

In the way of treatment, I had hoped that massage would be of great service, but he has had a long course of it—a couple of months at least—and you see it has done no good. It looks a suitable case for the Tallermann treatment, but we have not the necessary apparatus. He is now, however, having vapour baths for the knees, and, I hope, with benefit. None of the drugs used has given him any help; but he has had cod liver oil with advantage to his general health.

[He is now—27th January—considerably improved, and able to walk a little in the ward. I believe the vapour baths did him good, but he does not think so.]

V. *A case of mediastinal tumour* (afterwards proved to be an aneurysm).

This man, aged 38, has been under observation for several months, and is evidently suffering from a mediastinal tumour of some kind. He complains of breathlessness (six months' duration), and of sudden attacks of severe dyspnœa; he has a marked laryngeal or brassy cough, due to paresis of the left vocal cord, but he has no aphonia, and there is a dull area beneath the manubrium sterni and extending upwards to the clavicles.

These facts suggested the presence of a tumour, and, as aneurysm is the most common tumour in that situation, other signs of aneurysm were carefully sought for. The pupils were found to be unequal, the right being larger than the left, both, however, reacting normally. The right pulse was smaller and of higher tension than the left, a difference made out more readily from sphygmographic tracings than by the finger. There was deflection of the trachea—at first to the right, later to the left; and there was tracheal pulsation, if not tugging. Over the manubrium sterni the second sound was always thumping, and it seemed, at times, as if a ventricular-systolic murmur were audible. Pain had not been a prominent symptom, and had been referred mainly to the right shoulder and to the right scapula. Sometimes he had had a little difficulty in swallowing.

Many of these facts seem to point to aneurysm, but, on the other hand, since admission he has had several extremely severe and protracted attacks of dyspnœa, during which his temperature has always risen high (maximum, 103·4°), and which have been associated with profuse expectoration (10 oz. in twenty-four hours) of pus, the latter taking the place of the mucus of which his spit usually consisted. On the first occasion this pus was extremely offensive, but in later attacks the bad odour was absent. Occasionally the spit was blood-stained. During the worst of these attacks the respiratory murmur was found to be very defective on both sides, from the middle of the interscapular space downwards.

These facts seem rather to point to the existence of a mediastinal glandular tumour in which there is a suppurating cavity, the retention of the contents of which causes the urgent dyspnœa and high temperatures. That is regarded as the most probable diagnosis, even although no enlarged glands can be felt in the neck, and there has been no œdema of the face, neck, or arms so often associated with such tumours. The question of trephining the sternum has been before us on various occasions, but it was considered advisable to wait for more definite indications, especially as it had been found that a hypodermic injection of morphia (even when he was quite livid) relieved the most urgent dyspnœa in a few minutes. (All other drugs—ether, nitrite of amyl, oxygen, &c.—proved useless.) He has also been treated by iodide of potassium.

The main facts of the case you can still see for yourselves on examination, though he is now so much better that he can go up and down stairs without trouble, and his cough no longer bothers him much.

[He left the Infirmary on 24th December, feeling much better, and he died suddenly on the morning of 26th December, without any known indications of hæmorrhage, &c. Dr. Workman made a *post-mortem* examination, and removed the contents of the anterior mediastinum, remarking that there was a mediastinal tumour. Later, when the parts were opened up, the tumour was found to be an aneurysm of the aorta, just where the ascending passes into the transverse portion, but its cavity was almost filled with laminated clot. The adjoining mucous membrane of the trachea was greatly congested and abraded in one or two spots. There was no purulent centre.

In the light of this partial examination, I infer that the attacks above described must have arisen from sudden aggravations of the tracheal inflammation.]

NOTES ON TUBAL CASES.[1]

BY J. K. KELLY, M.D.,

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IT is strange to think that as late as 1881—not yet eighteen years ago—the most distinguished English gynæcologist of that time could say that he had then seen only one case of tubal disease in all his life! I don't suppose that any gynæcologist could now be found who does not recognise the Fallopian tube as one of the most frequent sources, if not actually the most frequent source, of pelvic disease. And this is simply what should be expected from the anatomical relations and from the embryological history of the tube. Embryologically, the tube is part of the uterus, and consists of the same structures; anatomically, it is continuous with it, and its cavity leads directly into the peritoneal cavity, so that disease of the uterus, which is so frequent, is naturally transmitted to the tube, and the tube again naturally transmits such disease to the peritoneum. Were it not, in fact, that the peritoneum has a wonderful power of self-protection there would be few women free from peritoneal disease originating from the Fallopian tube. In general practice it is not to be expected that this outstanding importance of the tube as a cause of disease should be by any means fully recognised, seeing that until recently specialists in gynæcology were themselves so divided in opinion. Accordingly, when asked for a contribution, I thought nothing could be more useful to this Society than to show some diseased tubes, and give a short note of their history. The difficulty I found was to choose the kind of tubes to show, and those I have brought to-night are all illustrations of purulent salpingitis. This is undoubtedly far less common than catarrhal salpingitis, which I consider one of the most frequent ailments of women, but it is perhaps the most frequent disease of the tube that calls for operation. The pathological condition is a simple one, but the effects it produces on the neighbouring parts are sometimes of the most complicated character. An early result of salpingitis is usually the closure of the abdominal end of the tube, and this is so far a barrier to the extension of the inflammation to the peritoneum. It is not a very secure barrier, however. Another result is the extension of the purulent inflammation to the ovary, which in some cases becomes a mere pus sac. Then over the tube and ovary thus diseased, uterus, broad ligament, omentum, small intestine, large intestine, and sometimes even the bladder, and on the right side the vermiform appendix, become united into a mass, the individual constituents of which become almost inseparable. It is this matting of all the neighbouring organs around and over the diseased tube that constitutes the sole difficulty in the operation for the removal of the diseased part, and if we could have our cases diagnosed early enough the operation would be simplified, and, I might say, entirely freed from danger.

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[1] **Read at a meeting of the Glasgow Medico-Chirurgical Society held on 13th January, 1899.**

What, then, are the symptoms and signs that might lead to a diagnosis of tubal disease?

With regard to symptoms, I think there are none which are perfectly reliable, but we may say that a pain localised in or starting from one side of the pelvis, increased on the approach of menstruation, and accompanied by menorrhagia, is at least good ground for suspicion of tubal disease, and would warrant an examination. If with these symptoms, or even without them, we have a small irregular tumour in the region of the tube, if this tumour is not movable apart from neighbouring structures, if it extends towards Douglas's pouch, and especially if it presents a convoluted surface, it is probably tubal. Evidence of pus formation will increase the probability, and a history of an illness—such as a gonorrhœa, a puerperal inflammation, or a tubercular peritonitis—which might have as one of its results a closure of the abdominal end of the tube would raise the probability almost to a certainty.

An analysis of the symptoms in our cases to-night shows that all suffered from pelvic pain; about 82 per cent suffered from dysmenorrhœa; about 64 per cent suffered from menorrhagia, while 45½ per cent suffered from irregular hæmorrhage, and in 18 per cent the menses were reported scanty; about 36½ per cent suffered from dysuria.

1. Mrs. C., æt. 29, iii-para (last child five years ago), three premature. Since an attack of puerperal fever, six years before, has suffered from constant pain in left side, frequently shooting down left leg, at times resembling labour pains. When pain is severe she has a feeling of abdominal distension. Since then, also, she has suffered from menorrhagia and dysmenorrhœa and also from irregular hæmorrhage, which sometimes lasts several weeks.

Physical examination revealed enlarged and tender appendages on left side, passing into Douglas's pouch, and on the right side also the appendages were fixed in adhesions. In this case, however, the condition was obscured by an enormous hypertrophy of the cervix, which had been twice operated on in Edinburgh, under the idea, the patient said, that it was cancerous. We did not consider it cancerous, but, in order to make certain, we had a small piece of it examined before operating on the appendages.

At the operation the tubes and ovaries were found adherent to all the neighbouring structures, but the adhesions were separable without great difficulty.

The specimen has shrunk a good deal, but it still shows the characteristic convolutions of the tubes when closed at the fimbriated ends.

2. Mrs. M., æt. 23, nullipara. Patient has suffered for two years from painful and frequent micturition, from pain in right side of pelvis, and from pain during menstruation, especially at the commencement of the flow. During the past eighteen months she has also had pain in the left side of the pelvis, shooting down the left leg, increased during menstruation, and not relieved by the flow. Menstruation during the last three months has been more scanty than usual.

Physical examination revealed a slightly enlarged uterus, with fundus towards the right in the posterior half of the pelvis. Left appendages formed a tumour above left vaginal fornix, and right appendages were adherent along right side of uterus and posteriorly in Douglas's pouch, where the tenderness to palpation was excessive.

At the operation the adhesions round both appendages were found exceedingly dense and difficult to tear through.

Specimen shows left appendages uppermost, with remains of a peritoneal cyst in outer part. The only place were distinct pus was found was in outer part of right tube.

3. A. G., æt. 25, i-para, seven months ago. In this case symptoms were very little complained of. There was dysmenorrhœa and menorrhagia, but not so great as to disable the patient subsequent to the confinement seven months before admission. A few days before admission sudden severe pain set in on left side, and in the course of twenty-four hours passed all across the hypogastrium, and this pain continued till she came into hospital.

Physical examination revealed a firm cystic mass filling the left side and posterior part of pelvis, with the uterus lying in front of it and considerably enlarged. Pressure on the cyst, especially on the left side, caused pain. Uterus and cyst could be moved together slightly upwards and downwards. The right appendages could not be felt.

At the operation omentum was found adherent over uterus and distended left tube. The left appendages were densely adherent to bowel and pelvic floor, and some pus escaped during the separation of the adhesions. The right appendages were only slightly adherent, and were removed without difficulty.

Specimen shows left tube and ovary in lower part of jar (rather spoiled). The right ovary is slightly cystic, and tube shows acute salpingitis.

4. Mrs. A., æt. 29, iii-para, last six years ago, one abortion three years ago. Patient has suffered for several weeks from pain in lower abdomen, chiefly on right side, labourlike in character, from pain in micturition, from a feeling of bearing down, from irregular uterine hæmorrhage, and from occasional shiverings and sweatings.

Physical examination revealed a rounded elastic tumour filling Douglas's pouch, and passing mainly towards right side of pelvis. The uterus was enlarged and carried forward by the tumour, the cervix being close behind pubis. The upper surface of the tumour could be felt *per abdomen*, reaching as high as the level of the anterior iliac spine.

At operation omentum and bowel were found adherent all over right side of pelvis, and the tube was found fixed in the very bottom of Douglas's pouch. The left appendages also were adherent to bowel.

Specimen shows the right tube and ovary fixed together. Near uterine end of tube has been left attached a piece of omentum, which could not be detached without tearing the tube and causing escape of pus. In the abdominal end of tube is a small oval mass formed by the fimbriæ turned in and fixed together.

5. Mrs. K., æt. 32, ii-para, last five years ago. Patient suffered from pelvic inflammation after birth of still-born child three years ago. Since then has suffered from pain in left side and shooting down left leg, from dysmenorrhœa, menorrhagia, painful and frequent micturition. Was curetted in Edinburgh seven months ago without more than temporary relief.

Physical examination revealed matting of appendages on both sides, convoluted tube on left side, enlargement of uterus, and great tenderness to palpation in the vaginal fornices.

At the operation the appendages were removed with great difficulty. Right tube and ovary were surrounded with numerous thin-walled cysts, filled with clear fluid, apparently peritoneal in origin.

Specimen shows the right appendages lowermost, with a few of the cysts still visible; the left appendages show pus cavities, and in the ovary a hæmorrhagic cyst.

6. Mrs. L., æt. 36, iii-para, last six and a half years ago. Patient complained of pain in back and in abdomen, chiefly on left side, and shooting down both thighs. The pain was paroxysmal, and was brought on by exertion. She has lately had uterine hæmorrhage, and pain in micturition. She has never had shiverings or sweatings.

On physical examination uterus was found enlarged. Both sets of appendages were matted together, and the left passed round into Douglas's pouch.

At operation extensive adhesions to bowel and omentum were found, both over the appendages and between them and the uterus.

Specimen shows both tubes and ovaries containing pus, the left appendages being the lower.

7. Mrs. B., æt. 26, nullipara, one abortion four years ago. Patient had suffered since the abortion from pelvic pain, chiefly in right side, worse before menstruation, and somewhat relieved by the flow; from menorrhagia; from dyspareunia. Shortly after marriage, and previous to her pregnancy, she had pain on micturition, and this has occasionally troubled her since.

Physical examination showed uterus slightly enlarged, displaced a little to the left, but in normal anteflexion. Left appendages were slightly enlarged in normal position, but right appendages were considerably enlarged, and passed round towards Douglas's pouch, excessively tender to palpation.

At operation omentum was found adherent to anterior abdominal wall, and the incision had to be carried through it. The appendages were densely adherent to all the adjacent structures.

Specimen is a beautiful example of pyosalpinx.

8. Mrs. M'N., æt. 33, i-para, twelve years ago, three abortions. Patient dated her complaint from fourteen months ago, when

she was lifting a heavy bed, and felt something give way in her abdomen. This was followed by cramp in her abdomen and profuse flooding. Since then she has been mostly confined to bed.

She has severe dysmenorrhœa, menorrhagia, and irregular hæmorrhage. She suffers from constant pain, worst on the left side, but passing also round to the right.

Physical examination showed a retroverted enlarged uterus, and the appendages formed cystic tumours on both sides, and passing round to meet each other in Douglas's pouch.

Specimens show tubes filled with pus, ovaries with numerous enlarged Graafian follicles, and in one a large hæmorrhagic cyst.

9. Mrs. W., æt. 38, vii-para, last five years ago; two abortions, last eight years ago. Patient dated her illness only from six weeks before admission. It began with sudden severe pain in right iliac region and shooting down right thigh, and with uterine hæmorrhage, which has continued since then with very little interval. The pain occasionally resembled "after pains." Her strength has rapidly declined, and she has had frequent rigors but no sweatings. The pain has continued, and is excessively severe.

On examination uterus was found enlarged, retroverted, and thrown towards left side of pelvis by a tumour occupying region of right broad ligament. There was a suspicion that this might be an ectopic pregnancy, as the right uterine artery pulsated strongly, and the breasts were secreting. During the fortnight she was in hospital previous to operation, the the tumour seemed to vary in size, but rather diminished on the whole. The diagnosis of a hæmatoma of the right broad ligament was made.

At the operation the omentum was found adherent over pelvic cavity. Both sets of appendages were densely adherent to all the adjacent structures, and were removed with difficulty.

Specimen shows tubes containing pus, and ovaries with small cysts, some of them hæmorrhagic.

10. Mrs. M., æt. 39, nullipara, one premature labour thirteen years ago. Thirteen years ago, patient had what she called an "abscess of the womb." Two years later she had "inflammation," *i.e.*, pain in left side of abdomen, with rigors, vomiting, and sweating. Since then she has always had this left-sided pain. It is worse during menstruation. For four

or five years she has had menorrhagia. She has frequent shiverings and sweatings, and has emaciated of late.

On examination uterus was found pushed slightly to the left by a round elastic tumour, filling the whole left side of pelvis and passing round into Douglas's pouch. On right side appendages were found adherent along the side of the uterus. We had no doubt about the diagnosis of pyosalpinx in this case, and proceeded to operate in the usual way, but when we opened the abdomen, we found that the supposed large pyosalpinx was a myoma attached to left side of uterus, and passing out between the folds of the broad ligament. This diagnosis was confirmed by the presence of one or two small myomas close to the angle of the uterus, and as the patient took chloroform very badly, and probably would succumb if we attempted hysterectomy, we resolved to leave the tumour untouched, and closed up the abdomen again. We were all disappointed at this result, and it was mortifying to think that our diagnosis had gone so far wrong. But we were consoled somewhat by the fact that a myoma was not so serious a disease as a pyosalpinx. The patient felt better, and went to the convalescent home nineteen days after the operation; very soon, however, her pain returned as before, and in three months she returned to the ward and asked to have the tumour removed, whatever the risk might be. Accordingly, we reopened the abdomen, and removed, not a myoma, as our sense of sight had led us to suppose, but a pyosalpinx, as both the history and the clinical examination had shown that it must be. There was great difficulty in separating the sac from its adhesions, and a considerable quantity of pus escaped. The right tube was normal, the right ovary contained several follicular cysts, and was adherent in the lateral pouch of Douglas. It was separated from its adhesions, and one or two of the cysts punctured, but as both the tube and ovary were free from pus they were not removed.

Specimen shows the left appendages forming mainly a large pus sac, in which the ovary takes the chief part.

11. Mrs. C., æt. 20, i-para, two years ago. Complaint began about five months ago with slight pain in left side, increased during menstruation. Menses were then rather scanty. Dyspareunia has been present for seven months. Two months ago uterus measured 3½ inches to sound, and her medical attendant made a diagnosis of endometritis, and used the curette to endometrium. Four days before admission she was seized with sudden severe pain in left

side, passing across the lower abdomen and accompanied by a feeling of distension; this was followed by vaginal discharge.

On examination uterus was found normal in size. On left side of uterus, and near angle, was a small pulsating swelling with granular surface, and feeling doughy on pressure; below and behind this, and passing towards Douglas's pouch, was a distinctly cystic tumour. On right side the appendages were enlarged and adherent. The tumour in left side slightly increased in size after admission to the hospital, and this, taken with the fact that the patient's doctor had found no tumour there at the time he curetted two months before, made it possible that we might have in this case an ectopic pregnancy, though the absence of uterine enlargement, of cervical softening, of mammary secretion, and indeed of all signs of pregnancy, made us incline to the diagnosis of pyosalpinx, which was confirmed at the operation.

The omentum was adherent at the inner end of each tube, where pus was oozing through from the tubal lumen.

The specimen shows the left tube and ovary in lower part, the tube enormously distended by pus, and the ovary forming a blood cyst, the effusion of blood thus probably accounting for the increasing size of the tumour after admission. The right tube also contains pus.

LIST OF THE PRINCIPAL WRITINGS OF THE LATE PROFESSOR JOSEPH COATS, M.D.

COMPILED BY T. K. MONRO, M.A., M.D.

IT has been thought that the following list of his writings would be accepted as a graceful, if modest, tribute to the memory of the late Senior Editor, who did so much, not only for the *Journal*, but also for the medical school of Glasgow. At the Editor's suggestion, a few contemporaneous incidents in Dr. Coats's life have been introduced.

1869 (ÆT. 23)

[Appointed Pathologist to Glasgow Royal Infirmary.]

1. "On the excretion of urea in typhus, in relation to the temperature" (jointly). Glasgow Medical Journal,[1] 1869, i, 489-505.

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[1] The volumes of the *Glasgow Medical Journal* referred to all belong to the fifth (current) series.

2. "Two cases of tubercular meningitis in the adult, with rather remarkable absence of some of the symptoms commonly regarded as characteristic" (reported for Dr. Gairdner). Glasgow Medical Journal, 1869, i, 260-267.

3. Observations on the cooling of dead bodies (undertaken for Professor Harry Rainy, and published by him). Glasgow Medical Journal, 1869, i, 323-330.

1870

4. "Wie ändern sich durch die Erregung des N. Vagus die Arbeit und die innern Reize des Herzens?" Aus dem physiologischen Institute zu Leipzig. Berichte der Kön. Sächs. Gesellschaft der Wissenschaften. Sitzung am 12. December, 1869, SS. 360-391.

1871

5. "Case of soft sarcoma of the cerebellum" (jointly). Glasgow Medical Journal, 1871, iii, 53-58.

6. Stricker's Studies from the institute for experimental pathology in Vienna for the year 1869 (*Review*). Glasgow Medical Journal, 1871, iii, 78-85.

7. "Quarterly abstracts of German journals." Glasgow Medical Journal, 1871, iii (continued in subsequent volumes of Glasgow Medical Journal).

8. "Case of soft cancer of right kidney, cancerous coagula in heart, pulmonary embolism, &c." (jointly). Glasgow Medical Journal, 1871, iii, 221-229.

9. "Remarks on the pathology of Dr. Fraser's case of mollities ossium." Glasgow Medical Journal, 1871, iii, 454-458.

10. Translation of a paper on hospital gangrene, by Professor König. Glasgow Medical Journal, 1871, iii, 471-488.

1872

11. "The structure of the myxoma and sarcoma, with illustrative specimens." Glasgow Medical Journal, 1872, iv, 35-52.

12. "Cases of pathological interest from the practice of Glasgow Royal Infirmary." Glasgow Medical Journal, 1872, iv, 201-209.

13. "Large sarcomatous tumour in the abdomen, probably of suprarenal origin." Glasgow Medical Journal, 1872, iv, 332-337.

14. "Two cases of calcareous infiltration of the muscular fibre of the heart." Glasgow Medical Journal, 1872, iv, 433-441.

15. Catalogue of the pathological museum of Glasgow Royal Infirmary, 1872.

1873

16. "The cell theory, and some of its more recent aspects." Glasgow Medical Journal, 1873, v, 277-278.

17. "Aneurism of the larger arteries of the brain as a cause of cerebral hæmorrhage." Glasgow Medical Journal, 1873, v, 433-443.

1874

18. "On the absorption of dead bone." Glasgow Medical Journal, 1874, vi, 321-331.

19. "A peculiar fatty growth on the upper surface of the corpus callosum." British Medical Journal, 1874, ii, 75.

20. "Acute interstitial inflammation of the kidneys in scarlet fever, fatal on the tenth day." British Medical Journal, 1874, ii, 400-401.

1875

[Appointed Pathologist to Western Infirmary.]

21. "On the redness and swelling of inflammation as related to the condition of the blood and blood-vessels." Glasgow Medical Journal, 1875, vii, 274-275.

22. "The results of some injections of the kidneys in Bright's disease, in relation to albuminuria and hæmaturia." Glasgow Medical Journal, 1875, vii, 458-470.

23. "Four cases of affection of the vermiform appendage, with fatal issue." British Medical Journal, 1875, i, 3-5.

24. "Report of a case of aphasia" (jointly). British Medical Journal, 1875, i, 568-569.

25. "Case of acute yellow atrophy of the liver: death." British Medical Journal, 1875, i, 847.

1876

[Became Lecturer on Pathology.]

26. "Case of intussusception—slough of a portion of bowel—recovery." Glasgow Medical Journal, 1876, viii, 155-158.

27. *Post-mortem* examination of a case of floating kidney. Transactions of the Pathological Society of London, 1876, xxvii, 469.

28. "A study of two illustrative cases of epilepsy." British Medical Journal, 1876, ii, 647-649.

29. Translations of four lectures in *German Clinical Lectures.* New Sydenham Society, 1876.

1877

[Appointed Editor of *Glasgow Medical Journal.* Began teaching Practical Pathology. President of Pathological and Clinical Society (1877-78 and 1878-79).]

30. Translations of three lectures in *German Clinical Lectures* (second series). New Sydenham Society, 1877.

31. "The pathology of embolism." Glasgow Medical Journal, 1877,

32. "On some recent views of the functions of the brain and its relation to other nervous centres." Proceedings of the Philosophical Society of Glasgow, 1877, x, No. 2, 348-365.
ix, 16-43.

33. Report on the pathology of hydrophobia. Lancet, 1877, i, 162-163.

1878

34. "Pathological demonstrations at Glasgow Western Infirmary—(1) A case illustrative of fatty infiltration of the heart, cancerous infection of the peritoneum, hydronephrosis, and acute suppurative nephritis." Glasgow Medical Journal, 1878, x, 392-400.

35. "(2) A case of cerebral hæmorrhage with aneurism of a cerebral vessel, valvular disease of the heart, embolism, interstitial nephritis, &c., with discussion of the pathological relations of these conditions." Glasgow Medical Journal, 1878, x, 443-452.

36. "On the pathology of tetanus and hydrophobia." Medico-Chirurgical Transactions, London, 1878, lxi, 79-94.

1879

37. "On descending secondary sclerosis of the brain and spinal cord in a case of hemiplegia" (jointly). Glasgow Medical Journal, 1879, xi, 257-271.

38. "On a case of disseminated sclerosis of the brain and spinal cord (multiple sclerosis)." Glasgow Medical Journal, 1879, xii, 5-10.

39. "A case of hemiplegia from an injury involving loss of brain substance in the motor region of the convolutions." Journal of Anatomy and Physiology, 1879, xiii, 104-108.

40. "A case of multiple (lymphoid?) tumours, some of which disappeared under observation" (jointly). Transactions of the Pathological Society of London, 1879, xxx, 387-394.

41. "Preliminary report on the action of anæsthetics to the scientific grants committee of the British Medical Association" (jointly). British Medical Journal, 1879, i, 1-2.

42. "Second report on the action of anæsthetics to the scientific grants committee of the British Medical Association" (jointly). British Medical Journal, 1879, i, 108.

43. "Third report on the action of anæsthetics to the scientific grants committee of the British Medical Association" (jointly). British Medical Journal, 1879, i, 921-923; Journal of Anatomy and Physiology, 1879, xiii, 387-396.

1880

44. "Report on the action of anæsthetics to the scientific grants committee of the British Medical Association" (jointly). British Medical Journal, 1880, ii, 957-972.

45. "On twisting of the intestine as a cause of obstruction." Glasgow Medical Journal, 1880, xiii, 445-449.

46. "Notes of a case of ulcerative endocarditis" (jointly). Glasgow Medical Journal, 1880, xiv, 281-291.

1881

47. "On phthisis pulmonalis, especially its relation to tuberculosis." Glasgow Medical Journal, 1881, xv, 254-269, 299-302.

48. "Cases of congenital malformation of the aortic valve, with remarks on the influence of such lesions in producing disease in after life." Glasgow Medical Journal, 1881, xv, 372-377.

49. "The international medical congress of 1881." Glasgow Medical Journal, 1881, xvi, 185-191.

50. "On aneurism of larger arteries of the brain as a cause of cerebral hæmorrhage." Transactions of International Medical Congress, 1881, i, 415-421.

51. "Illustrations of the mode of extension of lympho-sarcoma, and its analogy with the organisation of thrombi, blood-clots, &c." Transactions of International Medical Congress, 1881, i, 421-424.

1882

52. "A case of spontaneous lateral sclerosis of the spinal cord and one of poliomyelitis anterior." Glasgow Medical Journal, 1882, xvii, 31-38.

53. "On the pathology of cerebral hæmorrhage." Glasgow Medical Journal, 1882, xvii, 109-117.

54. "The pathology of diabetes mellitus." Glasgow Medical Journal, 1882, xvii, 246-253.

55. "On the lymphatic system of the abdomen in relation to the extension of inflammation, tuberculosis, and cancer." Glasgow Medical Journal, 1882, xviii, 111-119.

1883

56. *A Manual of Pathology.* London, 1883 (American edition, reprinted, Philadelphia); second edition, 1889; third edition, 1895.

1884

57. "On the pathology of albuminuria, with special reference to the changes in the circulatory apparatus of the kidney." Glasgow Medical Journal, 1884, xxi, 294-309.

58. "On compensatory hypertrophy of various organs." Proceedings of the Medical Society of London, 1884, vii, 363-385.

1885

59. Catalogue of the pathological museum of the Western Infirmary, Glasgow, 1885.

60. "On a case of multiple melanotic sarcoma, with remarks on the mode of growth and extension of such tumours." Glasgow Medical Journal, 1885, xxiv, 92-97.

1886

61. "On cancer in certain of its pathological aspects." Glasgow Medical Journal, 1886, xxv, 249-271; xxvi, 34-39.

62. "On a case of tuberculosis of the stomach, and one of acute miliary tuberculosis depending on tuberculosis of a pulmonary vein, with remarks on the pathology of these conditions." Glasgow Medical Journal, 1886, xxvi, 53-61.

63. "On a case of double uterus and absence of one kidney." Glasgow Medical Journal, 1886, xxvi, 180-185.

64. "Observations with reference to the theory of the respiratory murmur, and the seat of origin of the so-called vesicular murmur, in a case in which the larynx was extirpated by Dr. Newman." Lancet, 1886, ii, 11-12.

65. "A case of excision of the pylorus: death in four days" (jointly). British Medical Journal, 1886, ii, 150.

1887

66. "A case of injury to the head, resulting in paralysis and epileptiform convulsions." Glasgow Medical Journal, 1887, xxvii, 111-117.

67. "On senile changes in the arteries, and on true ossification of the middle coat." Glasgow Medical Journal, 1887, xxvii, 265-272, 296.

68. "Remarks on cerebral abscess." Glasgow Medical Journal, 1887, xxviii, 132-136.

69. "An adenoid sarcoma with cartilage originating in the pineal gland." Transactions of the Pathological Society of London, 1887, xxxviii, 44-52.

70. A case of simple diffuse goitre, with secondary tumours of the same structure in the bones of the skull." Transactions of the Pathological Society of London, 1887, xxxviii, 399-405.

1888

[Vice-President, Section of Pathology, British Medical Association.]

71. "On the pathology of phthisis pulmonalis" (in *Lectures to Practitioners*, by W. T. Gairdner, M.D., LL.D., and Joseph Coats, M.D.). London, 1888.

72. "A case of primary cancer of the left kidney, with secondary formations in the pleura and lungs" (jointly). Glasgow Medical Journal, 1888, xxix, 10-16.

73. "The Glasgow Medical Journal." Glasgow Medical Journal, 1888, xxx, 133-135.

74. "The pathology of infectious and infective diseases, as illustrated by the facts of inheritance." Lancet, 1888, i, 9-11, 62-64, 112-113.

75. "A case of primary cancer (or endothelioma) of the brain, in connection with peduncles and pons." Transactions of the Pathological Society of London, 1888, xxxix, 5-8.

76. "Case of multiple cancerous tumours, many of them cystic, in the lungs, brain, bones, &c.; the primary tumour probably in the lung." Transactions of the Pathological Society of London, 1888, xxxix, 326-336.

1889

[President, Section of Pathology, British Medical Association.]

77. *Manual of Pathology*, second edition, revised and mostly rewritten. London, 1889.

78. "A case of primary cancer of the pleura." Glasgow Medical Journal, 1889, xxxii, 15-22.

79. "On two cases of diabetes associated with lipæmia." Glasgow Medical Journal, 1889, xxxii, 95-101.

80. "Two cases of healed tubercular peritonitis, one of them resulting in fatal obstruction of the intestine." Glasgow Medical Journal, 1889, xxxii, 332-337.

81. "On the nature of constitutional susceptibility to disease." British Medical Journal, 1889, ii, 409-414.

1890

82. "An inflammatory lesion in the kidneys of a ram, with streptococci in the glomeruli and tubules." Glasgow Medical Journal, 1890, xxxiii, 108-112.

83. "A case of fissure of the abdomen, ectopia of the viscera, and extroversion of the bladder." Glasgow Medical Journal, 1890, xxxiii, 208-210.

84. "A case of central lipoma of a rib associated with three other forms of tumour, one being an ovarian cystoma in process of transplantation." Glasgow Medical Journal, 1890, xxxiv, 81-84.

85. "Cancer of terminal part of common bile-duct—jaundice, distension of ducts and gall-bladder—rupture of gall-bladder and biliary peritonitis" (jointly). Glasgow Medical Journal, 1890, xxxiv, 84-87.

86. "On a case of cancer of the œsophagus involving the recurrent laryngeal nerve and the body of the last dorsal vertebra" (jointly). Glasgow Medical Journal, 1890, xxxiv, 161-165.

87. "An anencephalous fœtus (cranioschisis) with open spina bifida (rachischisis)." Glasgow Medical Journal, 1890, xxxiv, 183-186.

88. "The action of anæsthetics on the respiration and cardiac action, and on the risks incident to this action." Glasgow Medical Journal, 1890, xxxiv, 323-337.

1891

[President of Medico-Chirurgical Society (1891-92 and 1892-93).]

89. "A specimen of the prismatic variety of the tænia saginata (mediocanellata." Glasgow Medical Journal, 1891, xxxv, 103-107.

90. "Case of hydronephrosis of unusual origin." Glasgow Medical Journal, 1891, xxxv, 342-344.

91. "On a case characterised by subcutaneous emphysema of the neck and thorax, of peculiar origin." Glasgow Medical Journal, 1891, xxxv, 424-427.

92. "A case of multiple sarcoma of bone." Glasgow Medical Journal, 1891, xxxvi, 420-426.

93. "A case of punctured wound of the right auricle of the heart—survival for nine days." Glasgow Medical Journal, 1891, xxxvi, 427-430.

94. "History of a case of cerebral tumour: diagnosis, operation, pathology" (jointly). British Medical Journal, 1891, i, 574-578.

95. "The spontaneous healing of tuberculosis: its frequency and the mode of its occurrence." British Medical Journal, 1891, ii, 933-938.

1892

96. "On the pathology of intestinal obstruction as illustrated by specimens and *post-mortem* records." Glasgow Medical Journal, 1892, xxxvii, 161-181.

97. "A case of Addison's disease in which the tubercular nature of the lesions in the suprarenal bodies was demonstrated." Glasgow Medical Journal, 1892, xxxviii, 86-89.

98. "Sleep, dreams, and delirium" (with an account by Professor Gairdner of his experiences in the delirium of typhus fever). Glasgow Medical Journal, 1892, xxxviii, 241-262.

99. "Case of acute yellow atrophy of the liver" (jointly). Glasgow Medical Journal, 1892, xxxviii, 289-293.

100. "On two illustrative cases of cerebral hæmorrhage." Glasgow Medical Journal, 1892, xxxviii, 337-344.

1893

[Vice-President of Philosophical Society (1893-96).]

101. "Scrofuloderma verrucosum." Glasgow Medical Journal, 1893, xxxix, 136-137.

102. "On certain considerations in regard to the infective nature of cancer." British Medical Journal, 1893, i, 53-57.

103. "Preliminary communication on the pathology of aneurysms, with special reference to atheroma as a cause" (jointly). British Medical Journal, 1893, ii, 456-460.

104. "The pathology of sudamina and miliaria." Journal of Pathology and Bacteriology, 1893, i, 216-222.

105. "A case of tuberculosis in an organised blood-clot on the dura mater; with remarks on some pathological relations of the dura mater." Journal of Pathology and Bacteriology, 1893, i, 460-467.

1894

[Appointed Professor of Pathology in the University.]

106. "Two cases of uncomplicated intraperitoneal rupture of the urinary bladder." British Medical Journal, 1894, ii, 121-123.

107. "Fundamental conceptions as to the characteristics and embodiments of life, with special reference to pathology" (inaugural lecture of the chair of pathology). British Medical Journal, 1894, ii, 983-986.

108. "Note on a rapid method of hardening and preparing tissues for microscopic examination." Journal of Pathology and Bacteriology, 1894, ii, 492-495.

1895

109. *Manual of Pathology*, third edition. London, 1895.

110. "On Ludwig and Pasteur; and on vivisection." Glasgow Medical Journal, 1895, xliv, 330-335.

1896

111. Address at the inauguration of the new pathological institute in connection with the Western Infirmary and the University. Glasgow Medical Journal, 1896, xlvi, 365-366.

112. "Immunity to infective diseases: a pathological study in view of recent researches." Proceedings of the Philosophical Society of Glasgow, 1896, xxvii, 20-38.

113. "A specimen of the so-called siren-malformation (sympus, symelia)" (jointly). Journal of Pathology and Bacteriology, 1896, iii, 149-159.

1897

114. "On endarteritis deformans, or atheroma, and aneurysm, and their relations to each other" (jointly). Journal of Pathology and Bacteriology, 1897, iv, 78-118.

1898

115. *Notes on Sea and Land, being the Diary of a Journey to New Zealand, Australia, Ceylon, and Egypt (October, 1897, till April, 1898).* Glasgow (printed for private circulation), 1898.

In addition to the above writings, Dr. Coats made numerous contributions to the proceedings of societies (especially the Pathological and Clinical Society), and wrote many reviews in the *Glasgow Medical Journal.*

A CASE OF DEFECTIVE DEVELOPMENT OF THE LIMBS.[1]

By JOHN LINDSAY M.A., M.B.

The subject of this report was shown alive at the meeting of 23rd February, 1898. The case occurred in the practice of Dr. Gemmill Thomson, of Ayr; and when the child died in June of last year, he sent the body to Dr. Jardine, who had it photographed, and handed to me for dissection. I now show the photograph and a cast, with drawings of the dissections, and the skeletons of the upper and lower limbs.

Dr. Gemmill Thomson supplies the following particulars of the pregnancy and labour:—The subject, a male, was the third child of the mother—the two preceding children being well developed and healthy. He was born on 31st December, 1897, and died of convulsions on 19th June, 1898. The mother states that she felt no fœtal movements during the pregnancy.

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[1] Read at a meeting of the Glasgow Obstetrical and Gynæcological Society, held on 25th January, 1899.

The labour, which was believed to have occurred at eight and a half months, although the infant looked to be of full time, was easy and natural, the placenta being expelled with the child.

External appearance (Fig. 1, p. 275).—The body, from the pelvis upwards, was like that of a strong and healthy infant, of six or seven months, which had been subjected to amputation of both arms at the shoulder-joint. The stump on the left side was slightly more prominent than that of the right, owing, as it afterwards appeared, to the greater length of the rudimentary humerus on this side. On the extremity of each there was a shallow linear dimple. The lower limbs were

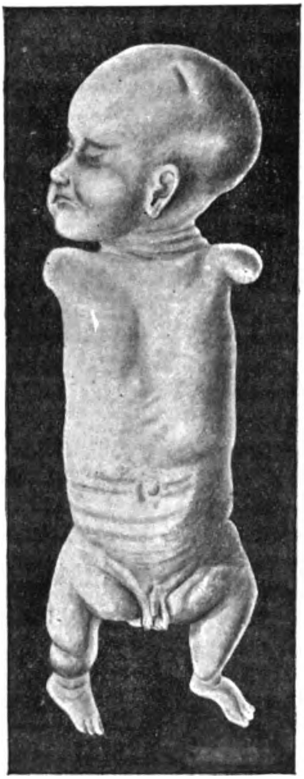

FIG. 1.

External appearance; drawn from a cast.

very short, the shortening occurring almost entirely in the region of the thigh, this being represented merely by a fleshy fold between the knee and the inguinal line. The feet had each only three toes, but otherwise were well formed, and in proper relation to the leg at the ankle.

Internal organs.—The brain was carefully dissected throughout, the pituitary and pineal bodies specially noted; but neither in the surface markings nor in the deeper parts could any deviation from the normal be detected. The spinal cord was not examined. All the other organs were healthy and well formed; but there was intussusception of the ileum at two places, the intussusception being easily reduced, and without sign of inflammation.

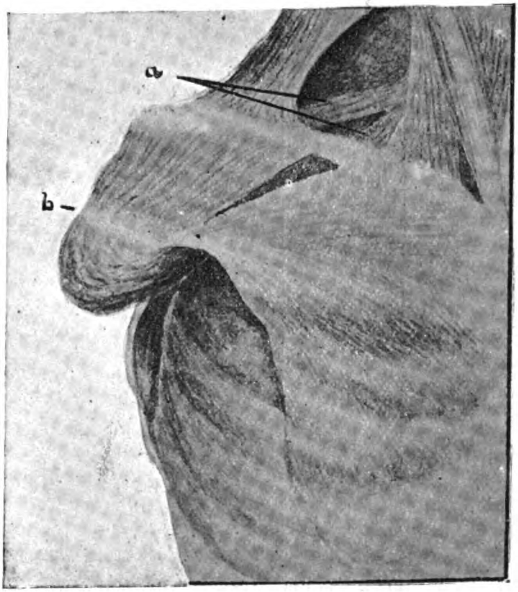

FIG. 2.

Right shoulder; front; superficial—(*a*), double omohyoid; (*b*), line of union of deltoid, pectoralis major and latissimus dorsi.

Skeleton.—The cranium and trunk were normal. So also were the clavicles and scapulæ, except that on the right side the relations of the articular surfaces of the scapula and humerus were reversed, the glenoid facet being convex, the head of the humerus concave. The humerus on this side was hardly over an inch in length, and was recurved as shown in Fig. 5 (p. 279). The left humerus was 1¾ inch long, nearly straight, and tapering to a blunt point; the joint normal.

The pelvis was well formed in all respects save that the acetabulum was entirely absent on both sides. To the point on the os innominatum, where the articular cavity should have been, there was attached a thick, twisted strand of fibrous tissue about 1½ inch long, ending in a cartilaginous nodule, that was obviously the lower epiphysis of the femur (Fig. 7, p. 281). On the outer side, and near the upper end of the same band, there was another and smaller nodule of cartilage, the great trochanter. The femur thus consisted of the trochanter and lower epiphysis, the fibrous band representing the head and shaft. The tibia was strongly curved forwards, but not otherwise malformed. The fibula was altogether absent; but, nevertheless, the interosseous membrane was well

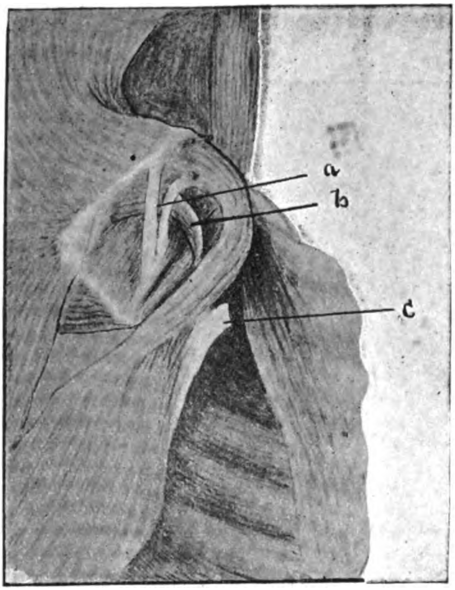

Fig. 3.

Right shoulder; back; superficial—(*a*), slips from infraspinatus to deltoid; (*b*), slip from deltoid to teres minor; (*c*), some fibres from the latissimus disappearing in the subcutaneous fat.

developed, and had a thickened cord-like edge where the fibula should have been. The tarsus consisted of (*a*) a large cartilaginous piece, incompletely divided into two, so that it was probably formed by the coalescence of the astragalus and os calcis; (*b*) two small cube-shaped cartilages in line with the first metatarsal bone, which was excavated on the inner side to receive one of them. If the position of these may be taken as a guide, they were the navicular and internal cuneiform. The other tarsal elements were awanting. The three metatarsals present, and the phalanges in series with them, were not in any way abnormal.

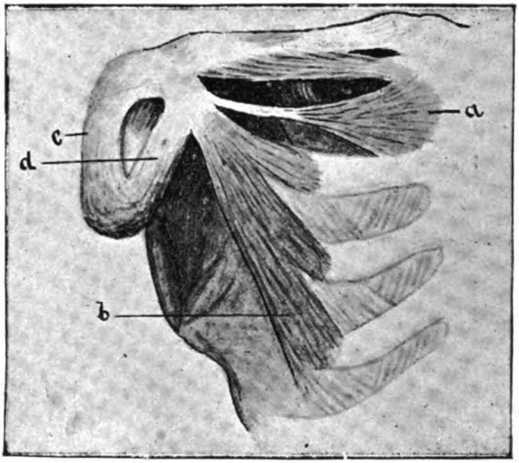

FIG. 4.

Right shoulder; front; deep—(*a*), supernumerary pectoralis minor; (*b*), pectoralis minor; (*c*), long head of the biceps; (*d*), short head of the biceps and the coraco-brachialis.

Muscular system.—The most notable point here was the occurrence of many anomalies quite unconnected with the defective parts. Thus, the omo-hyoid on the right side was double (Fig. 2, p. 276). On the left the sterno-mastoid and cleido-mastoid were separate and distinct from origin to insertion; there was a supernumerary pectoralis minor on the right (Fig. 4, p. 278); and the psoas parvus, though present on the one side, was entirely absent on the other. These, and others to be afterwards mentioned, are variations which are found in subjects otherwise conforming to the type; it is the number of them occurring in this one body that is of interest and importance.

The following description of the anatomy of the limbs applies to both sides. Where there was difference between them, the difference is specially referred to:—

Upper limbs.—The subcutaneous fat over the extremity of the stumps was increased in depth, and contained much fibrous connective tissue. The lymphatic glands were of the usual size, and were supplied, as is also usual, by the alar thoracic branch of the axillary artery. The trapezius, rhomboids, and all the other muscles between the trunk and shoulder-girdle, were normal. The great superficial muscles of the arm, the latissimus dorsi, deltoid, and pectoralis major, were also normal from their origin to very near their insertion; but before quite reaching that point the fibres of each became inextricably mingled in a common sheet covering the end of the stump (Fig. 2, p. 276). This common mass was bound to the humerus by strands of fibrous tissue, one of which joined the tendon of the teres major, and so must be regarded as the tendon of the latissimus dorsi, whilst two others could be similarly identified as the tendons of the deltoid and pectoralis major. On the left side, where the bone had been cut short at a somewhat lower point, there was less mingling of the muscles, and their insertions were consequently more distinct. The scapulo-humeral muscles were quite normal on the left side, but on the

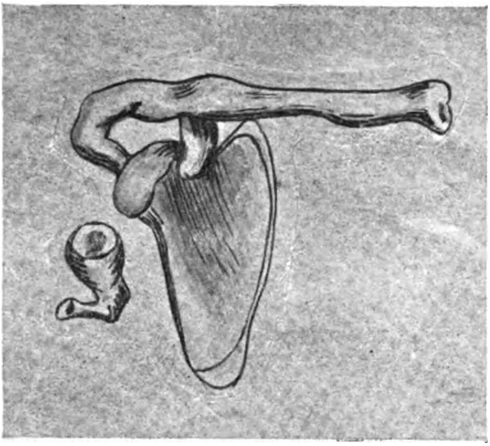

FIG. 5.

Skeleton of shoulder girdle and humerus on the right side.

right they presented these curious modifications. From the surface of the infra-spinatus two thin, but quite distinct, fleshy fasciculi passed to the postero-external surface of the deltoid, the upper one reaching as far as the acromion (Fig. 3, p. 277); and the posterior fibres of the deltoid itself separated from the rest of the muscle, and, curving backwards, joined the teres minor, being attached also to the axillary border of the scapula by aponeurosis. The small pectorals on both sides were normal; on the right side there was, in addition, the supernumerary shown in Fig 4 (p. 278).

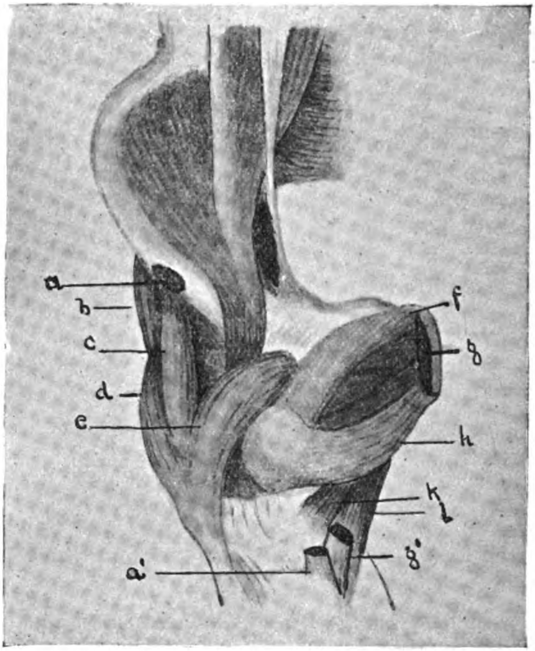

FIG. 6.

Right thigh; front—(*a*, *a'*), cut ends of sartorius; (*b*), tensor vaginæ femoris; (*c*), rectus femoris; (*d*), vastus externus; (*e*), vastus internus; (*f*), pectineus; (*g*, *g'*), cut ends of gracilis; (*h*), adductor magnus; (*k*), semimembranosus; (*l*), semitendinosus.

The deep muscles of the arm were represented by two bundles of fleshy fibres, largely mixed with connective tissue (Fig. 4, p. 278). One of these, easily divisible into an anterior and a posterior fasciculus, was attached to the coracoid process, and doubtless stood for the coraco-brachialis and short head of the biceps. The other, attached at its upper end to the acromion, the capsular ligament and upper border of the glenoid facet, was apparently the long head of the biceps.

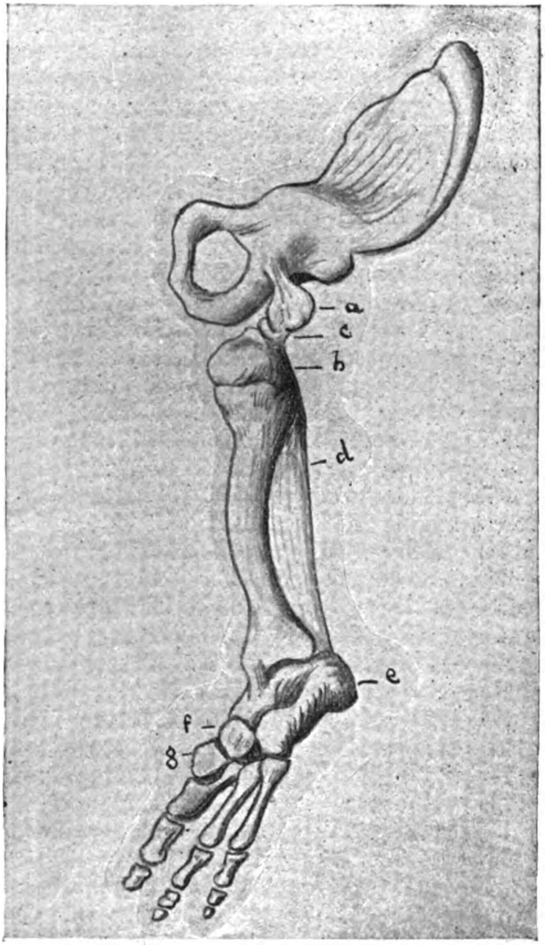

FIG. 7.

Skeleton of left leg—(*a*), great trochanter; (*b*), lower epiphysis of the femur; (*c*), fibrous cord; (*d*), thickened border of interosseous membrane; (*e*), combined astragalus and os calcis; (*f*), navicular (?); (*g*), internal cuneiform (?).

Both bundles passed into the common mass of fleshy and fibrous tissue covering the end of the humerus. On the left side there was also a slight trace of the triceps.

The axillary artery.—On the left side the artery, after giving off the superior thoracic and the acromio-thoracic, divided into two trunks, an inner and an outer, the latter being the smaller of the two. The inner trunk gave off the long thoracic, and terminated as the subscapular. The outer trunk ran down the inside of the arm, and midway between the final bifurcation of the axillary and the upper border of the teres major it divided into two main branches, one of which followed the course of the posterior circumflex, and the other, probably the brachial, ran to the extremity of the stump. The axillary of the right side was similarly disposed, but the two terminal branches, the posterior circumflex and the subscapular, were about equal in size, and nothing corresponding to the brachial could be found.

The *brachial plexus*, as far outwards as the second three cords, was formed according to the plan given in Quain as that of most frequent occurrence. The outer cord ended as the musclo-cutaneous in the muscular bundle attached to the coracoid process. The middle cord, after giving off the subscapular and circumflex nerves, ended in the extremity of the stump by splitting into small twigs. These terminal branches would therefore represent the musculo-spiral nerve. The inner cord split into three, one of these ending superficially on the stump. The destination of the two upper branches, which were very small and delicate, could not be determined. The three together would represent either the internal anterior thoracic with the lesser and greater internal cutaneous nerves, or one of these was absent or lost, and the nerve ended as the ulnar. In any case, the outer and inner cords did not divide and again unite to form a median nerve. That important nerve, the main supply of the fore-arm and hand, was entirely absent; and no doubt there was a causal connection between its absence and the absence of the distal part of the limb, but which was antecedent and which consequently must remain in question.

Lower limb.—All the muscles of the thigh were much degenerated, and it was difficult to dissect them out of the mass of fat and connective tissue. They were modified in form chiefly in the direction of great shortening; but the os innominatum being well developed, except for the absence of the acetabulum, their pelvic origins were hardly at all affected. The tibia also being normal, the sartorius, gracilis, semitendinosus, and semimembranosus had their usual insertions, that of the last named, however, being thick and fleshy instead of tendinous. The biceps has ordinarily an attachment to the fascia of the leg. Here, in the absence of the fibula, that was its only insertion. The adductor muscles differed from the type, but still mainly in the direction of recognised variations. Thus the origin of the adductor longus extended from the body of the pubis along the ramus and tuber ischii, and the adductor magnus was in two parts. Both muscles with the pectineus and the adductor brevis were inserted into the inner side of the lower epiphysis. The quadriceps was a somewhat globular mass, easily separable into the usual component parts, the rectus arising from the ilium, the vastus externus from the trochanter, and the vastus internus from the lower epiphysis. The crureus was also distinguishable. The small common tendon was inserted into the head of the tibia without the intervention of a patella. The tensor vaginæ united with the gluteus maximus, and this was inserted partly into the investing fascia and partly into the fibrous band uniting the upper to the lower cartilaginous nodule. The latter, the femoral attachment, was blended with the tendons of the iliopsoas, quadratus, and obturator externus. The deeper glutei, the obturator internus and the pyriformis were attached to the upper cartilaginous nodule. It will thus be seen that this nodule represented the great trochanter, and the great trochanter only. The superior gemellus was absent, another common variation.

Leg and foot.—The extensor longus digitorum ended in three tendons, one of them going to the great toe after being joined by a slip from the special extensor of that digit. In the left leg the muscle was divided into two parts from its origin downwards, the tendon of the inner portion uniting with that of the extensor proprius hallucis. The extensor brevis also sent a slip to the great toe as well as one to each of the other two digits. Of the peronei muscles, only one of the three was present on each side; on the right it was the peroneus tertius; on the left, the peroneus longus, which was present. The tibialis posticus, springing from the tibia only, was imbedded in the fleshy portion of the common long flexor. The latter muscle sent a tendon to the great toe, but the short flexor did not, and the proper long flexor of that digit was entirely absent. The plantaris was of considerable size in the left leg, but was not found at all in the right. The transversus pedis was not found; but the small muscles of the great and little toes were well developed. There were two lumbricales, normally disposed, two dorsal interossei attached one to each side of the middle toe, and one plantar interosseus attached to the inner side of the little toe. The arrangement of these muscles would indicate that the middle toe was the true second digit, and that the absentees were the third and the fourth.

In addition to the regular muscles of the part, which, so far as they have not been specially mentioned, were normal, there was also present in the left leg a small anomalous muscle, probably the tibio-fascialis anticus, springing from the lower front of the tibia and interosseus membrane and ending in a thread-like tendon on the outer front of the astragalus. There was also a strand of muscular and fibrous tissue running from the angle of union between the heads of the gastrocnemius to be attached to the tuber ischii. What the significance of this may be I cannot guess, but I have found a similar structure in a calf with duplicity of one hind leg.[1]

Of the blood supply of the lower limb there is only this to be said, that the main stream of the femoral artery went by way of the profunda femoris to the back of the thigh. The sciatic artery was quite as large as the profunda, and the two united to form the popliteal.

There was nothing unusual about the lumbo-sacral plexus or about the nerves of the limb, except that the great sciatic divided, while still within the pelvis, into the external and the internal popliteal nerves.

Etiology.—Defective development of the limbs may be due either to a cause external to the fœtus, or to something within the organism arresting the action of the formative forces, or diverting them from their usual course. Pressure is the only conceivable external agency by which such a condition as we have here could be produced. This pressure might be brought about by means of amniotic bands, or through the resistance of fœtal membranes too closely applied to the growing embryo. The constriction of amniotic bands producing intrauterine amputation would quite account for the absence of the arms. The dimples seen on the ends of the stumps might well be the cicatrices of amputation, nearly obliterated by the subsequent growth of the remaining parts. But there is nothing like amputation in the lower limbs. Still the case which Dr. Jardine showed last session, proved that very slight inflammatory bands adhering to the growing limb buds are capable of causing great distortion and even coalescence of parts. That case, however, in common with others referable to the same cause, showed what is not seen in the case of this child, namely, such irregularity in the deformities as might be expected from the action of chance adhesions.

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[1] *The Veterinarian*, September, 1898.

The effect of want of room in the amnion would be similar to that of pressure by bands; but to admit the probable truth of this theory it is necessary to agree to the reasonableness of the assumption on which it rests, that there is extreme deficiency of the ammotic fluid at the time when it is usually at its greatest amount relative to the size of the embryo. Such a condition has not been observed, and, *à priori*, its occurrence is exceedingly problematical.

The defective development of the limbs, however, is not all that is to be accounted for here. There are the numerous muscular variations, the high division of the sciatic nerve, the unusual but not unprecedented course pursued by the blood supply of the legs, above all there is the strongly symmetrical character of the defects. It seems to me that these can only be satisfactorily explained by supposing some cause within the embryo itself. It would appear that this embryo was profoundly disposed to vary, and that the disposition to vary went beyond bounds. This is not much as an explanation; it leaves undiscovered the agent that started the development on wrong lines; but it is something in the search for causes to fix the limits within which they may be found.

Obituary.

SIR JOHN STRUTHERS, M.D., LL.D.

Sir John Struthers died on 24th February, 1899, at his residence in Edinburgh, at the advanced age of 76. For more than half a century he was a prominent and distinguished figure in Scottish medicine, and now, as our contemporary, the *British Medical Journal*, says, "another of the great figures of the Edinburgh medical school has disappeared." Numerous lengthy and sympathetic biographical notices of this distinguished anatomist and teacher have already appeared, and it is quite unnecessary for us to refer in detail to his lengthened and most honourable career. His name and his work will long live in the memory of many generations of students who pursued their studies under his careful and sympathetic guidance, both in Edinburgh and Aberdeen; and his influence upon the medical thought and education of his time will long be felt. To the last he was in harness. On his retirement from his chair in Aberdeen in 1889, he devoted himself to the interests of the Royal College of Surgeons of Edinburgh, and of the Royal Infirmary of that city. He was an active member of the Conjoint Committee of the Triple Qualification, and his keen interest in all the questions coming before that Board abundantly proved that his intellectual vigour was maintained to the last. He died honoured and esteemed by all who knew him.

WILLIAM RUTHERFORD, M.D., F.R.S.

PROFESSOR RUTHERFORD, of Edinburgh University, died of influenza on 21st February, 1899. In his time he was one of our very greatest physiologists, and we sympathise sincerely with the Edinburgh medical school in the great loss it has sustained. As a teacher and demonstrator he was probably unsurpassed in Scotland, and his death has left a vacancy in the University of Edinburgh which it will be difficult to fill.

CURRENT TOPICS.

THIRD INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.—The Third International Congress of Gynæcology and Obstetrics will be held at Amsterdam, from 8th to 12th August, 1899. The questions arranged for discussion are as follows:—

1. The surgical treatment of fibro-myoma.
2. The relative value of antisepsis and improved technic for the actual results in gynæcological surgery.
3. The influence of posture on the form and dimensions of the pelvis.
4. The indication for Cæsarean section, compared to that for symphyseotomy, craniotomy, and premature induction of labour.

Among those who have consented to take part in these discussions are Messrs. Doyen, Howard Kelly, and Schauta, who will treat the first question; Messrs. Bumm, Richelot, and Lawson Tait, the second; Messrs. Bonnaire, Pinzani, and Walcher, the third; and Messrs. Leopold, Pinard, and Pestalozza, the fourth.

The reports, with their translations in the official languages, will be sent to all the members a month before the opening of the Congress. As regards private communications, preference will be given to those bearing upon the above mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members. The official languages are English, French, German, and Italian. The subscription for membership is one guinea. Subscription forms and further particulars may be obtained from the Hon. Secretary for Great Britain and Ireland, Dr. Arthur Giles, 37 Queen Anne Street, London, W.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, 1899.—This Congress is to be held in London from 8th to 12th August, under the presidency of Dr. Urban Pritchard. The British Organisation Committee, which numbers over seventy members from Great Britain and the Colonies, has Mr. A. E. Cumberbatch for its treasurer, and Mr. Cresswell Baber for secretary-general. The meeting will be held at the Examination Hall of the Royal College of Physicians of London and Royal College of Surgeons of England, and the following details have been arranged:—On Monday evening (7th August) a preliminary reception will be held by the president-elect. On 8th, 9th, 10th, and 11th August the Congress will be in session, and will be followed on Saturday, 12th August, by an excursion for members and their lady friends. The official languages of the Congress are English, French, German, and Italian. The subscription, to include a copy of the *Transactions*, is fixed at £1, to be paid to the treasurer, Mr. A. E. Cumberbatch, 80 Portland Place, London, W., before the opening of the Congress.

The subject chosen for special discussion is "Indications for opening the Mastoid in Chronic Suppurative Otitis Media," which will be introduced by Professor W. Macewen, of Glasgow; Dr. H. Knapp, of New York; Dr. Luc, of Paris; and Professor Politzer, of Vienna. A museum of specimens and instruments relating to otology, shown by members, will be held during the meeting. Communications regarding the museum should be addressed to Mr. A. H. Cheatle, 117 Harley Street, London, W.

Intending members of the Congress are requested to send in their names to the hon. secretary-general as soon as possible, and in any case not later than 1st May; titles of communications, together with a short abstract of the same, to be sent to the hon. secretary-general by the same date. According to the regulations of the Congress, no papers shall exceed fifteen minutes in reading; therefore all long communications should be read in abstract.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1898-99.

MEETING VII.—13TH JANUARY, 1899.

The President, DR. G. S. MIDDLETON, *in the Chair.*

I.—FRESH SPECIMENS.

BY DR. EDGAR.

1. *A ruptured gravid tube removed five days ago.*—The dilated portion was an inch from the cornu of the uterus, measures 1½ inch in length and 1⅜ inch in breadth, and shows an irrregularly circular tear 1 inch in diameter on its posterior surface. The ovary on being laid open shows a large corpus luteum; a tubal mole, measuring 2 inches by 1¼ inch by 1½ inch, was found lying free in the pelvic cavity. Possibly it was separated from the tube while freeing the latter from its adhesions. The pelvic cavity was filled with dark blood. The history is briefly as follows:—Last confinement eight months ago; apparently no pelvic disease; two months amenorrhœa with no symptoms of pregnancy, but with, at the sixth week, a sudden attack of abdominal cramp-like pains; profuse uterine hæmorrhage on 24th December, preceded for four days and accompanied by severe colicky pains in the abdomen; sickness and marked weakness, but no vomiting nor syncope; the hæmorrhage continued until

admission. It is remarkable, considering the size of the rupture, that syncope and death did not occur. On 31st December, what was probably a decidual cast was passed.

Progress since operation satisfactory; temperature and pulse normal.

2. *Fibroid uterus and adherent appendages removed by Howard Kelly's method of abdominal hysterectomy.*—The patient, æt. 37, and unmarried, is a seamstress, and has suffered so much from dysmenorrhœa and metrorrhagia that, for the last year, she has been unable to perform her duties to the satisfaction of her employers. She had repeatedly to give up work, but, as she had herself and mother to support, she could not retire from business.

The tumour is in the posterior wall of the uterus, and has firmly adherent to its posterior surface the enlarged right ovary, which measures 3¼ inches in length, and at the time of the operation was distended with dark fluid blood. There was a hæmatoma in the left ovary also. The adhesions behind and at the sides were very firm, and gave a great deal of trouble during the operation. Both ovaries ruptured while freeing the adhesions.

The operation was performed ten days ago, and patient has made an excellent recovery. There have been no sickness, thirst, pain, nor abdominal distension. Temperature and pulse normal. Stitches removed to-day. Wound healed by first intention.

II.—NOTES ON TUBAL CASES.

By Dr. J. K. Kelly.

Dr. Kelly's paper appears as an original article at p. 260.

Dr. J. M. Munro Kerr regretted that Dr. Kelly had not analysed the symptoms of such cases a little more fully. He had not sufficiently emphasised the importance of the fact that both tubes were affected in almost all cases, nor had he sufficiently indicated that the tubes almost always passed downwards and backwards behind the pouch of Douglas. It was essential to a diagnosis to make out the former point, which was almost invariably conclusive in favour of pyosalpinx.

Mr. H. E. Clark had seen nearly all the cases before operation. He had been struck by the great frequency of tubal disease and the relative infrequency of ovarian tumour in Dr. Kelly's wards. The great difficulty of the operation was apparently to be found in the extent of the adhesions.

Dr. Kelly's cases were all, it seemed, inflammatory; had he seen many of tubercular origin? Mr. Clark asked also with regard to the mortality of the operation in such suppurative cases.

Dr. H. E. Jones had seen, a few weeks ago, a woman of 24, who had been married for four years. She had never menstruated. Her complaint was of pain in the left side, extending down the leg. On examination, a tumour was discovered in the pouch of Douglas on the right side, while a smaller nodule was present on the left. He consulted a specialist, who thought the tumours due to enlargement of the ovaries. There might, therefore, be exceptions to the rule laid down by Dr. Kerr.

Dr. Kelly, in replying, said that both tubes were usually affected, as the disease was generally communicated from the uterus. When the tumour passed towards the pouch of Douglas, it was still more probably of tubal origin. He had seen several cases of tubercular disease of the tubes. In even the worst of these cases the mortality was not great. Out of the twelve submitted to the meeting, only one had died.

III.—VAGINAL CŒLIOTOMY.

BY DR. EDGAR.

Dr. Edgar's paper will be found as an original article in our issue for March, 1899, at p. 178.

Dr. J. K. Kelly said that, owing to the smallness of the vagina, there was risk of injury to the intestine in such operations if adhesions had formed above. The treatment of pelvic hæmatocele by vaginal incision was not always sufficient, as the abdomen might have to be opened afterwards.

Mr. H. E. Clark said that the present idea in surgery was to see the parts operated upon as completely as possible. In cœliotomy much had to be done in the dark. Adhesions of all kinds were better dealt with from the abdomen, and the same was true of hæmorrhage, especially arterial hæmorrhage.

Dr. Edgar admitted the dangers of the operation in non-selected cases. It was surprising how well one could see what one was doing in vaginal operations. It was sometimes possible to see the parts better than in abdominal operations.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1898-99.

MEETING V.—13TH FEBRUARY, 1899.

The President, DR. FLEMING, *in the Chair.*

I.—AMPUTATIONS.

BY DR. FLEMING.

Dr. Fleming's paper will be found as an original article at p. 241.

Mr. Clark, in proposing a vote of thanks to the President, said that it was not customary on such occasions to have any discussion. This he regretted, as there were some points raised and conclusions drawn with which they could not all agree. He was not at all surprised to find that Dr. Fleming's own statistics were so good. A record of the work done in the Infirmary was sent round yearly to those chiefly interested, and thus they were able to see and compare what had been done by others. Dr. Fleming's results were not only good, but his bill for dressings was also small as compared with others. The practical observations made were of great value, and he desired, in the name of the Society, to thank Dr. Fleming for his interesting and instructive address.

II.—METASTATIC PYÆMIA FROM TRIVIAL CAUSES, ILLUSTRATED BY A CASE ORIGINATING IN A BOIL.

BY DR. M'GREGOR ROBERTSON AND DR. J. SOUTTAR M'KENDRICK.

The case was that of a gentleman, aged 65, of unusually robust physique, who had never suffered from anything but a passing ailment. His illness commenced on 3rd October, 1898, but he had suffered a month previously from a boil at the back of his neck, which, however, rapidly healed, although a few boils, each about the size of a pea, had formed in the neighbourhood of the original one.

At first the symptoms were merely those of a chill with slight fever, and at no time had he a rigor. A faint puffing murmur, V.S. in character, was noted over the mitral area. All fever soon subsided, until the evening of the third day of his illness, when it reached 101°, and at this time it became necessary to pass the catheter, as retention of urine had set in.

No new symptom, other than the retention of urine, was observed, but it was noted that the urine withdrawn contained albumen to the extent of one-tenth (Esbach); sugar to nearly 0·4 per cent, but no tube-casts were found. The catheter had to be passed morning and evening. On several occasions a rectal examination was made, which failed to discover any abnormality connected with the prostate, bladder, or rectum.

Up to 10th October, the eighth day of his illness, little definite change took place—the temperature, cardiac murmur, and retention of urine being the only well-marked symptoms. The urine averaged 40 oz. in twenty-four hours, and showed on examination (9th October) blood cells, a few pus cells, hyaline, fatty, and granular tube-casts, amorphous urates, and triple phosphates.

On 10th October, the eighth day of the disease, a boggy swelling, painful to the touch and pitting on pressure, appeared on the radial side of the upper third of the fore-arm.

On 11th October, the ninth day of the disease, urea was found to be present in normal amount, 11 grs. to 1 oz. Lungs were free from disease, and no hæmorrhages were noted in fundus or skin.

On 12th October, the tenth day of the disease, a patch of consolidation was found at the base of the right lung. There was also swelling and tenderness of the left wrist, and pain in the right shoulder. On the evening of this day pleuritic friction was heard extending backwards and downwards from the cardiac apex. There was also slight ptosis of the right eye, and paresis of the left face. Delirium was increasing.

On 13th October, the eleventh day of the disease, fresh patches of consolidation were noticed over the region of the upper border of the liver in front, and of the left base. A patch of ecchymosis had also appeared over outer aspect of the left knee-joint.

From this day patient gradually sank; urine became almost totally suppressed, and coma set in. General peritonitis, without effusion, set in, and patient died at mid-day on 15th October, the thirteenth day of the disease.

A *post-mortem* examination was made by Dr. L. R. Sutherland twenty-eight hours after death, when it was noted that the swelling of the upper third of the right fore-arm contained thick greyish-yellow pus, from which pure cultures of the staphylococcus pyogenes aureus were obtained.

The heart was normal in size, and the muscle of both ventricles was free from fat. The mitral orifice admitted two fingers readily, and the free edges were thickened and rounded. The aortic valve was competent, but there was slight thickening of all the segments at their points of attachment. In neither mitral nor aortic valve was there evidence of recent inflammatory reaction.

Lungs.—Both pleural cavities contained turbid yellow fluid rich in fibrine. Over the lower lobes there were thin veils of recent fibrine. Throughout the lungs, which were crepitant and hyperæmic, there occurred at intervals areas of consolidation, varying in size from a pea to a marble. The abscesses were larger in the right lung; but, as a rule, they occupied the peripheral portions of the lung, thereby causing definite patches of necrosis of the pleuræ. Staphylococci were found to be present in great numbers in these abscesses.

Abdomen.—Coils of intestine distended, hyperæmic, and loosely covered by flakes of soft fibrine. Spleen soft, but did not show abscess formation.

Kidneys showed presence of numerous abscesses, varying from a pin-head to a small pea. Around the abscess proper there were extensive interstitial and also parenchymatous changes. No abscess of adrenals, pancreas, or intestines.

The stomach showed at its cardiac end on its posterior wall a firm tumour, with the naked eye appearance of a myoma. The liver was the seat of numerous abscesses, and on the under surface of the right lobe were three cavernous angiomata.

Pelvis.—Adhesions existed between bladder and pelvic wall. On removing the bladder an abscess cavity filled with creamy pus, to the amount of 3 oz., was opened into. The cavity was in direct communication with the left lobe of the prostate gland, which contained numerous small recent abscesses. They existed also in the right lobe. No hypertrophy of this organ.

The bladder appeared normal.

The paper then went on to discuss the diagnosis of this case, and to show the difficulty in forming a differential diagnosis between pyæmia, and more particularly acute tuberculosis, typhoid fever, acute rheumatism, uræmia, and malignant endocarditis.

The problem of its etiology was next discussed in the form of a series of questions:—

1. Was there any causal connection between the abscess in the fore-arm, the pelvic abscess, and the pyæmia; in other words, were these abscesses primary or secondary?
2. What was the cause of the retention of urine?

3. If the foregoing abscesses were secondary, what was the source of the original infection?

A series of cases of pyæmia, arising from trifling and obscure causes, were next referred to, and of these the following were the chief:—

Metastatic pyæmia arising a few days after incision of a boil in the back of the hand.[1] Pyæmia originating in a small sword-cut wound, which healed during the course of the disease.[2] Pyæmia from boils situated at the back of the neck, the virus remaining dormant for a full year.[3] Pyæmia and death from boils, but the case recorded suggested exhaustion rather than pyæmia as the true cause of death.[4] Pyæmia as the result of a leech-bite.[5] Pyæmia originating after a tooth extraction.[6] Pyæmia arising from an ulceration of the tongue opposite a carious tooth; death.[7] Pyæmia from whitlow (several cases).[8] Pyæmia from a phlegmonous inflammation of the submucosa of the pharynx.[9] Pyæmia from inflammation in the tonsils.[10] Pyæmia from specific urethritis (a few references are only given).[11] Pyæmia originating from the adhesive surface of a bunion plaster.[12] Pyæmia where no source of infection was discovered (two cases).[13]

In conclusion, the paper dealt with a criticism of a report by Professor W. O. Leube, of Erlangen, published in 1878, and entitled "Zur Diagnose der spontanen Septico-pyämie." The question was also discussed as to the probability that malignant endocarditis "is invariably only a symptom of a general infection, however trivial, obscure, or undiscoverable the original source may be;" and that "whether, in such an infection, the valves are attacked by the organisms or not, depends on the condition of the valves affording a favourable seat for the deposition and propagation of the organisms." References were made to the writings of Osler,[1] Hertzog,[2] and Leube,[3] which bore out this view.

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[1] Holmes and Hulke, *A System of Surgery*, vol. ii, p. 947.

[2] Rosenbach, *Microparasites in Disease* (Sydenham Society's publications), vol. 115, p. 435.

[3] Bryan and Waller, *Lancet*, 1882, vol. i, p. 946.

[4] Wakely and Cooke, *Lancet*, 1857, vol. i, p. 649.

[5] Kocher, *British Medical Journal*, 1880, vol. ii, p. 633.

[6] Port, *Münch. Med. Woch.*, 10th September, 1895.

[7] Chauffard and Raymond, *Archiv. de Méd. Expérimentelle*, May, 1896.

[8] Samuel Broke, *British Medical Journal*, 27th February, 1897; M'Dougall, *Lancet*, 1879, vol. i, p. 802.

[9] Manchot, *Jahrb. der Hamburg. Staatskrankmanhalten*, Bd. iii.

[10] Jessen, *Münch. Med. Woch.*, 7th June, 1898.

[11] Fressel, *Inaug. Diss.*, Leipzig, 1894; Prévost, *Archiv. Méd. Belges*, January, 1895; Bujurd, *Centralbt. f. Bakt. u. Parasit.*, Bd. xviii, H. 14 and 15.

[12] Myrtle, *Lancet*, 1892, vol. ii, p. 364.

[13] Johnson, *Maritime Med. News*, Halifax, 1891, iii, p. 51; Pomaro, *Riv. Renet. di Sc. Med.*, Venezia, 1892, xvii, p. 594-558; Bose, *Revue de Méd.*, August, 1894.

Dr. Finlayson said that when he received the notice calling the meeting, he was reminded of a case of his which he published in the *International Journal of Medical Sciences*, 1891. The case was in some points similar to the one mentioned by Dr. Robertson. A gentlemen, resident in the house where his daughter was lying ill with enteric fever, suffered from a train of symptoms suggestive of enteric in disguise, but with no elevation of temperature. As the earlier symptoms cleared up, a carbuncle appeared on his back. This had nearly healed, when a condition developed very suggestive of septicæmia, from which he died. The point of interest was the source of infection.

Dr. Rutherfurd thought that the question of most importance in this case was whether the abscesses in the prostate were primary or systemic. That grave symptoms and of a pyæmic type might follow a trivial injury he had no doubt whatever, but the evidence given did not enable him to form an opinion, and was not sufficient to assign to the boils the infective cause.

Dr. Fleming was also of opinion that from the evidence given it was by no means certain that the pyæmia originated in the boils. There was no doubt great difficulty in some cases in finding the mode of entrance, but all believed that a breach of surface was likely to exist. Though it was not impossible that the boils were here the source of the infection, he thought the sequence of symptoms pointed to the urethra.

Dr. M'Gregor Robertson, in reply, said that if the prostate had been the seat of the mischief there would have been evidence of prostatic disease other than retention of urine. The urine was normal but for a small trace of albumen. He still considered that from the history, absence of prostatic symptoms, state of the urine, that the prostate could be set aside.

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[1] Osler, *Lancet*, January, 1885, pp. 459, 505.

[2] Hertzog, *Deut. Med. Woch.*, 10th November, 1898.

[3] Leube, "Zur Diagnose der Spontanen Septico-pyämie."

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1898-99.

MEETING IV.—25TH JANUARY, 1898.

The President, DR. ALEX. MILLER, *in the Chair.*

I.—FRESH SPECIMENS.

BY DR. EDGAR.

Two small ovarian dermoids simulating pediculated subperitoneal fibro-myomata.—These were removed on the morning of the meeting, from a patient in the Samaritan Hospital for Women, on account of constant sacral pain of four years' duration. Both tumours were lobulated, and contained hair and thick sebaceous material. One was rounded, and of the size of a large orange; the other was elongated, and of about the size of a lemon. They were firmly fixed to the uterus and pelvic walls by adhesions.

A probable diagnosis of pediculate subperitoneal fibro-myomata was made, for the following reasons:—(1) Consistence too firm for the tumours to be ovarian cysts; (2) the lobulated shape; (3) firm attachment to the uterus; and (4) the history of four years' duration. Against this there was no history of hæmorrhage, and the uterus was very little enlarged; the sound passed 2¾ inches. But no stress was laid on these points, because they are frequently absent in cases of pediculated subperitoneal fibro-myomata. The special feature, which made Dr. Edgar hesitate to diagnose the tumours as fibroids, was the consistence, which was semi-solid or doughy. This suggested the possibility that the tumours, if fibroids, were œdematous, or that they were fibro-cysts.

While examining the patient, Dr. Edgar's first impression was that the case might be one of double pyosalpinx. This was owing to the facts that there were two tumours at the side of and behind the uterus, that they were adherent and their consistence was doughy, and that their shape was very suggestive of distended tubes. But the absence of tenderness, the absence of any characteristic history, and the fact the inner portions of the tubes were not thickened and firm, at once negatived this supposition.

II.—A CASE OF DEFECTIVE DEVELOPMENT OF THE LIMBS.

By Dr. Lindsay.

Dr. Lindsay's paper will be found as an original article at p. 274.

III.—INTERCELLULAR SALINE INJECTIONS IN CASES OF HÆMORRHAGE AND ECLAMPSIA.

By Dr. Jardine.

Dr. Jardine's paper appeared as an original article in our issue for March, 1899, at p. 169.

The *President* complimented Dr. Jardine on his most interesting paper, especially on the part of it that dealt with eclampsia.

Dr. Munro Kerr referred to the difficulty of coming to a conclusion with regard to the value of any particular line of treatment in eclampsia, as the cases varied so much in severity, and it might be one man's fortune to get a long run of mild cases, while another man had nothing but severe cases. Indeed, in testing the value of any particular treatment, Dr. Kerr thought that it was only the results in the very severe cases that were of any value. Dr. Kerr pointed out that in Dr. Jardine's paper there were two very severe cases, so severe that it is questionable if the ordinary methods of treatment only had been adopted the patient would have recovered. The treatment was theoretically sound, and practically promised to be most valuable.

Dr. Malcolm Black referred to a case of eclampsia treated a few weeks ago in the Maternity Hospital by saline intracellular transfusion. The case, Dr. Black said, was a severe one, and the treatment most satisfactory and encouraging.

Dr. M'Bride—In connection with the subject of transfusion of saline solution as a means of eliminating from the system deleterious products, I should like to refer to a case which was under Dr. Kelly's care in the Royal Infirmary during the past fortnight, and in which this method of treatment was tried. The patient was sent in as a case of extreme "vomiting of pregnancy." Nothing whatever was retained in the stomach for two or three days after admission, so that food and medicines had to be administered *per rectum;* jaundice was well marked, especially in the conjunctivæ; urine was loaded with bile pigments; liver dulness was distinctly less than normal; patient had the appearance of suffering from toxin poisoning. Some days after admission the os uteri was dilated, and the uterus emptied. Patient was evidently about three months pregnant. Intercellular transfusion of saline solution was now commenced (1 oz. to 1 pint), about a pint being injected under the skin of the back or front of chest twice daily. In two or three days there was marked improvement; jaundice diminished, urine became very much clearer and was much more copious, and the general expression of the patient was much lightened. In spite of this improvement, however, patient gradually sank and died. *Post-mortem* showed extreme fatty degeneration of the liver. The diagnosis was made as a probably "acute yellow atrophy of the liver;" and there is every reason to think that the pathological change found in the liver was an early stage of this somewhat rare disease.

Dr. Carstairs Douglas said he had listened with pleasure and interest to Dr. Jardine's paper, especially to that part of it dealing with saline transfusion in eclampsia. It seemed to him that it was a rational form of treatment, since it aimed at diluting some poison in the blood and stimulating the kidneys at the same time. Whatever particular view was held as to the etiology of eclampsia, practically all agreed that it was most probably due to a poison or poisons retained in the system; this was supported by the examination of the toxic qualities of the blood and urine by Tarnier and Chambrelent, Ludwig and Savor, and others. Saline fluid introduced made the kidneys act powerfully, and replaced the toxic serum withdrawn by a neutral and harmless fluid. Dr. Douglas pointed out that this method of treatment was employed in Zweifel's clinic in Leipzig before 1890, while more wide-spread attention was drawn to it by the results obtained by Berheim, published in Paris, 1893. The latter used subcutaneous saline transfusion in seven cases of eclampsia and one of uræmia with good results, one of the most noteworthy points being that it produced a copious flow of urine.

He suggested that in some cases, say in plethoric women, it might be worth while combining the transfusion with a preliminary venesection.

Dr. Edgar thought that, in view of the excellent results obtained by Dr. Jardine in the treatment of eclampsia by intracellular transfusion of saline solution, this method deserved an extensive trial. He called attention to the remarkable diuretic effect, and said that, inasmuch as eclampsia is undoubtedly a toxæmia, one would look for good results from the treatment.

As regards saline transfusion for shock and hæmorrhage, both in obstetric cases and during or after severe abdominal operations, he had had a large experience, and could corroborate Dr. Jardine's praises of the treatment. The apparatus was of small bulk, and he was in the habit of impressing on his students the importance of always carrying it in their obstetric bags.

Bacon's apparatus, described in the *International Clinics*, he considered an improvement. It consists of a glass funnel and long rubber tube, which is connected by means of a Y-shaped glass tube and two short rubber tubes, with two aspirator needles. The solution could be injected into the two axillæ at the same time, and thus the main objection against the intracellular contrasted with the intravenous method might be in great part obviated.

MEETING V.—22ND FEBRUARY, 1899.

The President, DR. ALEX. MILLER, *in the Chair.*

I.—NOTES OF TWO CASES ILLUSTRATIVE OF THE DIFFICULTY OF DIAGNOSIS OF ABDOMINAL TUMOURS.

BY DR. W. L. REID.

The first of the two cases to which I wish to call your attention was that of a lady of 25 years of age, whom I saw first in April, 1897. She had been married for eight years, and never pregnant, although in remarkably good general health.

For a year or more she had complained of backache, a tendency to menorrhagia, with fœtor of the discharge during the last two or three days of its continuance, and of constant leucorrhœa. Pain was felt in the hypogastrium and right hip on even moderate exertion or shaking in a conveyance. Nothing was observed on examinatin of the abdomen. *Per vaginam*, the uterus was found retroverted, 3½ inches in depth, and the cervix eroded. The anterior fornix was occupied by a hard tumour about the size of a Tangerine orange, apparently springing from the anterior wall of the uterus.

As Dr. Braxton Hicks had seen the patient a year before, I wrote to him, and found that he had considered it a uterine fibroid, not giving rise to any marked symptom and not demanding treatment.

I saw the patient occasionally during the next twelve months, and found no marked change in the tumour. In September last, being in Scotland, she called to tell me that she was suffering a good deal more, but that she did not wonder much, as she was pregnant. I had not seen her for about six months, and on examination I found that the tumour had enlarged to fully the size of a fœtal head, and appeared above the pelvic brim. The cervix was soft and rather patulous, but not shortened. She had irregular sanguineous discharges, which, nevertheless, seemed to me menstrual. The mammæ were congested, and a little serum could be pressed from the nipples; but the areolæ were not deepened in colour. I expressed the belief that she was not pregnant; but she said she had been told so by one of the best known consultants in London, mentioning his name, and that she felt the child moving. She had also consulted a physician in the south of England, who concurred in the opinion given by the London consultant, and who has since written to me to say that he had then no doubt that she was pregnant. She could not sleep except in the dorsal position, with the knees drawn up.

She asked me whether, if confident that she was not pregnant, I would remove the tumour at once, as it seemed to be growing rapidly. I said the wiser plan would be to go up to London and see the consultant again, and after she had done so, I would be willing to operate. This she did, and was told that the opinion given before had been a mistaken one, and the tumour was a rapidly-growing, probably cystic, fibroid of the uterus.

When she returned to Glasgow, Dr. George A. Turner and I examined her under chloroform, and came to the conclusion that it was a subperitoneal fibroid dissecting open the layers of the broad ligament.

On 23rd November, with the assistance of Drs. Turner and Carstairs, I opened the abdomen, and found a large pinkish tumour presenting under the omentum. Attempts at moving the tumour to get at its origin were in vain until a very strong pair of toothed forceps were applied, when it was dragged sufficiently towards the left side to show that the right tube and ovary were stretched over, and closely attached to, its surface. These were ligatured and removed, and then powerful traction disclosed the fact that it was between the layers of the right broad ligament, and sufficiently far from the uterus, that a pedicle could be formed of the free portion of the ligament. This was secured by strong silk, and the tumour cut away. It was then found that the uterus was uninjured, and could with the normal left ovary be brought up into the usual position in the pelvic cavity.

The patient made a good recovery, and is now free from symptoms.

This case is remarkable because of the fact that it was a myoma which grew slowly at first, and within a few months seemed to enlarge rapidly, possibly from a kind of œdema. Again, it was a myoma of the broad ligament which is rare, especially as taking on rapid growth.

Lastly, it was mistaken for pregnancy by two competent observers, one of them highly skilled, and, even after an examination under chloroform, Dr. Turner and I mistook it for a subperitoneal uterine fibroid.

In order that you may judge of the precise nature of the tumour, I have brought it here, along with the ovary removed from its surface. I have also a section put under the microscope. Dr. A. R. Ferguson reports of it as follows ;—

"I have examined sections prepared from near the edge of the large tumour of the broad ligament. Microscopically it possesses the typical characters of the myoma. The tumour is a tolerably vascular one, the vessels, although of small size, being well formed. The broad ligament has undergone considerable thickening, and is, by means of fibrous tissue, continuous with the interstitial tissue of the tumour, inseparably adherent to the latter. The muscle fibres traverse the tumour in well-developed strands passing in all directions."

The case now to be described had a somewhat aberrant course. I am sorry I have not been able to find some exact notes of it, and consequently the dates are matters of guesswork, but the main facts are as stated.

About ten years ago I was asked to see a patient in the country suffering so badly from menorrhagia that she had been almost quite confined to bed for some months. She was an unmarried woman of 39 years of age, and I found that she had a uterine interstitial fibroid about the size of a clenched fist, and that the uterus was 4½ inches in depth. She was put on ergotin, of which she took 3 grs. three times a day, more or less, steadily for three years. Meanwhile, the menorrhagia gradually became less, which the ultimate issue makes rather astonishing. A little over a year ago, while she was engaged in some household work, her "womb," as she put it, suddenly dropped on the floor, and she gave it to the doctor as a curiosity. He, of course, recognised that the fibroid had become more and more pediculate, until some exertion broke the pedicle and extruded it from the vagina.

About three months ago, she called to consult me on account of a new tumour having appeared in the abdomen, causing bearing down and general discomfort. She had had no menstrual discharge since shortly after the expulsion of the fibroid, and was believed to have passed the menopause. On examination, I found the pelvic cavity pretty well filled by an obscurely fluctuant tumour, and, projecting slightly from its surface posteriorly, was what I took to be the cervix uteri, but even a fine sound could not be got to pass more than half an inch into the dimple. On exposing the part by the speculum, it seemed as if it were certainly the cervix, and I tried to introduce a small Playfair's probe, which at length suddenly passed an obstruction and went into a free cavity. Its withdrawal was followed by a drop or two of dark, treacly fluid, and then it dawned on me that the case was one of atresia with retention of menstrual fluid. I enlarged the opening and allowed the fluid to drain slowly away, and in a week the uterus was reduced to 3 inches in depth.

My view of the case is that when the fibroid was extruded the cervical canal was left in a granular condition, and had healed up so completely as to produce absolute atresia. The patient is now quite well and menstruating normally.

The *President* thanked Dr. Reid for his interesting communication, and congratulated him for having in the first case, by carefully weighing the symptoms, excluded the probability of pregnancy, although such signs as secretion in the breasts, softening of the cervix, and sudden growth of the tumour rather pointed to such a condition having arisen.

II.—A CASE OF COMPLETE TUBAL ABORTION.

By Dr. Edgar.

Mrs. E., æt. 29, was admitted into the Glasgow Samaritan Hospital on 30th November, 1898; married eight years; two confinements, four and a half and two years ago; labours and puerperia normal. Since weaning younger child a year ago, menstruation has been three-weekly, and more painful than before. Leucorrhœa constant and profuse. Last period ceased three weeks ago; it had not differed from previous periods. Six days thereafter, patient had a sudden attack of severe cramp-like pains in hypogastrium, with sickness, vomiting, and abdominal distension. Uterine hæmorrhrge set in next day, and continued to be profuse for four days. A few clots then appeared for first time. Pains and hæmorrhage continued, though not so marked as at first. Patient pale and weak. Retention of urine. Never any morning sickness nor mammary symptoms.

Examination per vaginam.—No softening of cervix. Uterus retroverted, slightly dextroverted, somewhat enlarged, movable. To left at level of brim, smooth boggy mass of the size of a hen's egg, slightly tender. Pulsation marked in left fornix.

On 3rd December, assisted by Dr. Russell, I performed cœliotomy. Pelvis full of dark liquid blood. No adhesions. Left appendages removed. Right appendages inspected; tube apparently normal; ovary cystic; was resected. Portion of ovary remaining measured one inch by one-fourth of an inch. Excellent recovery. No decidua expelled. Dismissed on 7th January.

Examination of specimen.—Ovary, with unilocular cyst, measures 1½ in. by 1 in. by ¾ in. No true corpus luteum. Portion of tube removed measures 2 inches. The inner half is bent on itself, and firmly bound by a band of adhesion round it. No adhesions elsewhere. Ostium abdominale patent, but covered over by dark clot firmly adherent to fimbriæ. Outer half of tube distended by a firm clot, measuring five-eighths of an inch long by half an inch thick. Microscopic examination shows this clot to be attached to subepithelial mucosa on one side. Mucosa of rest of circumference of this part of tube shows usual folds, only slightly flattened; epithelium normal. No chorionic villi, decidual cells, Langhans' cells, nor syncytium. Tube elsewhere normal, except that lumen of bent part is greatly diminished. (Specimen and microscopic sections shown at the meeting.)

Remarks.—There are three points of interest in this case:—

1. As regards the resection of the right ovary, it is noteworthy how small a portion left behind can carry on the ovarian function. Since the operation, normal menstruation has occurred twice. It will be interesting to ascertain how long menstruation will continue, and whether patient will become again pregnant.

2. Granting that the tube has been gravid, the kinking described is of interest as a possible cause of the condition. It is true that the peritonitic band may have formed subsequently to the pregnancy, but the firmness of the adhesion, the limited area of the tube affected, and the absence of adhesions elsewhere, are against this supposition.

3. The chief reason why I have brought forward the case is the doubt in the diagnosis. I have no conclusive proof that it is a complete tubal abortion; but I have arrived at this diagnosis by a process of exclusion.

Facts against a diagnosis of tubal pregnancy:—

1. *Absence of the signs and symptoms of pregnancy.*— There was no cessation of menstruation; on the contrary, the sudden attack of colicky pains and uterine hæmorrhage, &c., occurred only six days after what was described as a normal menstrual period. It is possible that the latter may not have been a menstrual period; but, as it occurred at the proper time, was perfectly normal both in duration and in amount, and was unaccompanied by any unusual pain, the probability is that it was so. Under this supposition, and granting that the case was one of tubal pregnancy, the hæmorrhage and separation of the ovum must have occurred at an unusually early date, must have occurred, in fact, when the ovum was only a few days old. Perhaps this is the reason that no trace of it can be found in tube or clots. That there was no morning sickness, nor any breast symptoms, is what one would expect at such an early stage of pregnancy.

2. *No decidua*, so far as the patient is aware, was expelled *per vaginam;* and there was certainly none after her admission into hospital. It may have escaped notice among the clots passed before admission; but many cases have been reported in which this sign has been absent, or, at least, apparently so.

3. *No true corpus luteum* was seen in either ovary. Possibly it had not had time to develop.

4. *Folds of tubal mucosa not obliterated*, but only slightly flattened. This might be due to the very early stage of the abortion, and to the fact that the site of insertion of the ovum was very near the fimbriated extremity.

5. *No chorionic villi.*—This is a matter of surprise, because even in complete tubal abortion a few can generally be found by careful searching. A possible explanation may be found in the early date of the abortion.

6. *No decidual cells, Langhans's cells, nor syncytium.*— Bland Sutton and others are of opinion that there are no true decidual cells in the tube in tubal gestation. Kühne, in a

recent dissertation on the anatomy of tubal pregnancy, regards the large cells generally found as really Langhaus' cells. Webster, on the other hand, thinks that a careful search will always be rewarded by the discovery of at least a few; while Orthman, Schröder, and others state that they cannot be found in every case. My own experience agrees with the last statement. In the present case there are certainly none.

Arguments in favour of tubal pregnancy.—As neither embryo nor chorionic villi can be discovered, there is thus no positive proof. On the other hand, the history that two weeks before admission there was a sudden attack of colicky abdominal pains, of faintness and vomiting with abdominal distension, and of uterine hæmorrhage; and the fact that the pains and hæmorrhage had continued, though with abated severity, led me to suspect internal hæmorrhage, and the discovery of a smooth, defined, and boggy mass of the size of a hen's egg, to the left of the uterus, induced me to make a provisional diagnosis of tubal pregnancy which had ended in abortion, or, less likely, rupture of the tube, and justified me in opening the abdomen. The operation corroborated the diagnosis of internal hæmorrhage from the left Fallopian tube, but did not afford me any positive proof of tubal pregnancy. Microscopic examination, however, has shown that the tube is occupied by only one small clot, situated half an inch from the ostium abdominale, and attached to a limited area of the subepithelial mucosa. Elsewhere the epithelium is healthy.

We are thus shut down to the fact that the tubal hæmorrhage has originated from a single small area of subepithelial mucosa. Now, what could give rise to such a condition? In my opinion there are only two possibilities. The source of hæmorrhage may have been a small tumour, such as a polypus; but such tumours are rare, and it is practically certain that, had such been the cause, evidence of the tumour would have been capable of demonstration. The alternative is that of complete tubal abortion; and this, in my opinion, is the only feasible explanation.

The completeness of the abortion may be accounted for partly by the close proximity of the ovum to the ostium abdominale, and partly by its early date. Leopold's specimen of a ten-days' ovum *in utero*, the youngest fertilised ovum yet known, measured only one-third of an inch, and was already almost completely covered by a decidua reflexa. In the case under consideration, the ovum was presumably still younger, and the decidua reflexa, provided such a membrane forms at all in tubal pregnancy—an opinion denied by Fränkel, Abel, and others—could not have had time to develop sufficiently to fix the ovum.

In the discussion which followed, and in which *Drs. W. L. Reid, Balfour Marshall*, and *Carstairs Douglas* joined, it was generally agreed that the case described by Dr. Edgar was one of complete tubal abortion.

GLASGOW EASTERN MEDICAL SOCIETY.

Session 1898-99.

Meeting IV.—7th December, 1898.

The President, Dr. Malcolm Black, *in the Chair.*

I.—DERMATITIS HERPETIFORMIS.

By Dr. David Couper.

The patient was a woman, 61 years of age, and had suffered for seven years. There were here, as frequently, intervals of good health. The main features of the disease were the polymorphism of the lesions, intense itch, and burning sensation. The itch brought on want of sleep and loss of flesh; sometimes, if the patient is pregnant, labour must be induced or comes on of itself.

The disease is also known by Hutchinson's name of "hydroa æstivale."

II.—ANENCEPHALOUS FŒTUS.

By Dr. James Dunlop.

This fœtus was about 7 months old. The diagnosis of the presentation was difficult.

There is complete absence of the cranium and the greater part of its contents; the gap is continued downwards to the spinal canal. Immediately after the fœtus was born, Dr. Dunlop pressed his finger in the gap at the upper end of the spinal canal, with the result that the fœtus drew itself together, so to speak. This was repeated once or twice, until latterly no movements of the limbs were observed. The face had the characteristic squat appearance, with prominent eyeballs and low forehead.

III.—THE INFLUENCE OF SCOTTISH MEDICAL MEN ON LITERATURE.

By Dr. W. L. Brown.

Dr. W. L. Brown, London, delivered a lecture on "The Influence of Scottish Medical Men on Literature." The lecture was admirably illustrated by many pictures from old medical books, and portraits of Scottish literary doctors, by means of lantern and screen. It was brought up to-date, and included a sympathetic and laudatory reference to the literary work of the late President of the Society, Dr. William Findlay. It is Dr. Brown's intention to publish the lecture at a later period.

Meeting V.—21st December, 1898.

The President, Dr. Malcolm Black, *in the Chair.*

DEMONSTRATION OF CASES.

By Dr. G. S. Middleton.

Dr. Middleton's paper will be found as an original article at p. 252.

Meeting VI.—18th January, 1899.

The President, Dr. Malcolm Black, *in the Chair.*

I.—FŒTAL MONSTER.

By Dr. Patrick.

The fœtus was 5 months old, and was the second of twins. The monstrosity was of the nature of arrest of development of the face, and both upper and lower limbs. The development of the face was limited in its lower part to the smallest formation of the branchial arches, with the clefts persisting—the arches forming only small prominences; and in the upper part to the formation of a very slight elevation representing the nose, while the eyes were represented by two flattened elevations, which could easily be wiped away from the surface of the skin. The cranium was represented by a very small dome-shaped eminence between the shoulders; the constriction at the neck was absent. The arms were disposed like a seal's flippers, and very diminutive. The legs were better developed, but several toes were absent, and in one foot there was a condition of equino-varus.

II.—A DEMONSTRATION ON THE EDUCATION OF DEAF-MUTES.

BY DR. J. KERR LOVE AND MR. ADDISON.

Dr. Love said that deaf-mutes had no special physiognomy to mark them out, except that nearly 75 per cent had the appearances characteristic of the presence of post-nasal adenoid growths. He had made comparative measurements of the chest, height, &c., and found that, with one notable exception, the deaf-mute had as good a physical development as his hearing fellow. The exception was that the cranial circumference of the deaf-mute measured on an average half an inch less than the other, this being due to the fact that the cranial development, which accompanied the education of the hearing child from two to seven years, was imperfect in the deaf-mute.

Some of these children were not absolutely deaf. It has been discovered that "islands of hearing" may exist in the sea of deafness around them. But these islands are limited to sounds too high in pitch to permit of their use for teaching purposes.

The causes of the deafness are various—diseases of the brain, meningitis, injuries, scarlet fever, and measles. Some cases are congenital.

One case shown was discovered to have forty-one deaf-mute relatives, living or dead, at home or abroad. It, therefore, becomes an important question whether intermarriage between deaf-mutes should not be interfered with.

The first treatment is to remove all obstructions of hearing in the nose and throat. If it is found that the child's hearing is so bad that he cannot be taught in an ordinary school, he should be educated in a deaf-mute school.

Mr. Addison pointed out how the development of the reasoning faculties is imperfect when a child cannot hear or speak. In teaching deaf-mutes, the ideal would be one pupil to each teacher.

As soon as a deaf child finds that he cannot hear, he never attempts to speak. He indicates his wants by gestures, rude at first, but systematised afterwards. These gestures are taken by teachers and developed into a kind of grammatical language. Following that comes the teaching of written words, and by the constant association of these symbols with a given object, to fix in the mind the nature of the object. Thus, it is possible to communicate thought without the intervention of spoken language, a fact which even Max Müller denies when he says without speech there is no reason.

Mr. Addison demonstrated in a number of pupils the method of teaching adopted by him in Langside School for Deaf-Mutes. He showed the enormous difficulties which had to be overcome before a deaf-mute could speak intelligibly, or read the lips of one speaking.

THE FORFARSHIRE MEDICAL ASSOCIATION.

This Society met in the University College, Dundee, on Wednesday, 1st March, at 8.30 P.M.—Dr. J. Mackie Whyte, Vice-President, in the chair.

Dr. Mowat showed a man, aged 38, with molluscum fibrosum. The tumours had existed for five years, and are distributed all over the cutaneous surface of the body, with the exception of the hairy scalp, palms of the hands, and soles of the feet. (Case described in *Scottish Medical and Surgical Journal*, vol. iii., No. 3.)

Professor Kynoch showed two cysts of the ovary removed by posterior colpotomy from a patient of 26 years of age, who had for three years complained of pelvic pain. One was a dermoid containing hair, bone, and a tooth.

Dr. Emily Thomson spoke of a patient, aged 28, who had pain for two years, from whom she had removed a large dermoid.

Dr. Halley read a paper on "The Treatment of Perforating Ulcers of the Foot by Nerve-stretching," giving the notes of and the result of this treatment in three cases. In all the ulcers had followed callosities, and had gone on increasing; in two of the cases they were painless. In all three there was a a certain amount of anæsthesia, marked sweating of the foot, or, in one case, feet affected, and a varying amount of thickened epidermis. In none was there any affection of the central nervous system or of the circulatory system. In one case there was a history of peripheral neuritis due to alcoholism. The result in all three cases was distinct improvement and disapperance of the ulcer, but only for a time. The various methods of treatment of this trouble were then considered, and the results following nerve-stretching reported by others were given. The opinion was then expressed that if nerve-stretching were performed early enough, and if the patient were kept at rest a sufficiently long time, the results of this treatment might be more satisfactory, and that it ought to have at least a place in the treatment of perforating ulcers of the foot where there is no affection of the central nervous system or circulatory system.

Dr. Buist and the *Chairman* spoke on the paper, and *Dr. Halley* briefly replied.

Mr. Greig then read the first part of his paper on two years' experience in the surgical out-patient room of the Royal Infirmary, Dundee. He first dealt with fractures, explaining that the number treated was limited, and confined almost entirely to the upper extremity, because the majority were treated in the accident room. He gave in detail the number of fractures and the treatment he always adopted. He recommended the four-tailed bandage as against Sayers' method in the treatment of fracture of the clavicle. He then gave the number of cases of carbuncle treated, their situations, and the treatment adopted, and also of whitlow, of which the majority of his cases were in females. The number of cases of syphilis and gonorrhœa and soft sore was also given, and the treatment adopted.

REVIEWS.

The Treatment of Lateral Curvature of the Spine. By Bernard Roth, F.R.C.S. London: H. K. Lewis. 1899.

The author of this monograph must be gratified to find that the views expressed by him in the first edition of his work, ten years ago, have been almost universally regarded as correct, and the treatment recommended by him practised.

The employment of a spinal support of some kind as a routine treatment in any and every case of lateral curvature, independent of the nature or degree of the deformity, has been discarded in favour of the more rational treatment by posture and exercise; and yet it seems strange that, out of the one thousand consecutive cases mentioned by the author in an appendix and treated by him between the years 1885 and 1892, not one had been previously treated by exercises unless these were embraced under the term "massage," which, however, had only been employed in seventeen instances.

In only one group of cases does the writer recommend a support—in those exceptional cases where the curvature is due to paralysis of the erectores spinæ muscles—and even in this comparatively rare group he is doubtful of its usefulness.

Re-education of the muscular sense of the best possible position combined with methodical exercises is the treatment recommended. There is little difference perhaps in the nature of the exercises from those recommended and practised by others; success in treatment depends largely upon their being daily carried out and under direct supervision.

Special emphasis is laid on the point that only in those cases where no osseous deformity of the ribs or vertebræ exists can a complete cure be got.

Analysis of the cases already referred to reveals some interesting facts. The amount of osseous deformity present in each case is given in a series of tables, and classified according to degree as extreme, severe, moderate, and a trace; the non-existence of osseous deformity forms only a small proportion. Fully 50 per cent of the cases had flat-foot to some extent. The various exercises required in a given case, the possible duration of treatment, the author's method of measurement, can best be got by a perusal of the book itself.

The type is large and easily read.

Diseases of the Skin: An Outline of the Principles and Practice of Dermatology. By MALCOLM MORRIS. With 10 Coloured Plates and 26 Engravings. New and revised edition. London: Cassell & Co. 1898.

THE first edition of this work appeared some four or five years ago, and has now been for some time out of print. Although, perhaps, dermatology is not advancing at the same speed as some of the other medical sciences, there is no doubt that text-books in almost all sciences begin to get old after five years or thereby, and it is very important that fresh editions should appear from time to time. The text of the present volume has been revised, and a good deal of fresh matter has been added.

The arrangement of chapters is in the main the same as in the former edition, except that affections of the skin dependent on nerve disorders occupy seven chapters instead of five as before. To the eight coloured plates of the earlier edition two new ones have been added. One of these illustrates the fungi of ringworm, favus, tinea versicola, and erythrasma; and the other illustrates various pathogenic fungi and micro-organisms, and the filaria sanguinis hominis.

The work has increased in size by over thirty pages, but we may readily credit the author when he says that the difficulty has been to avoid adding so much as to change the character of the work. His name and reputation are a sufficient guarantee of its excellence.

Transactions of the Edinburgh Obstetrical Society. Vol. XXIII —Session 1897-98. Edinburgh: Oliver & Boyd. 1898.

Of several excellent papers in this volume, the following deserve special mention:—

1. "Induction of Premature Labour," by Dr. John Moir. The author, who is the oldest medical practitioner in Edinburgh, thinks that the common method of rapidly forcing on labour during induction must be attended by a large fœtal mortality. What he advocates is a daily slight dilatation of the cervix, and partial separation of the membranes. Operations are begun a week before the time the birth is desired to take place, and thus complete softening of the cervix is secured. He has had in all 72 cases, with a maternal mortality of 2·8 per cent, and a fœtal mortality of 23·3 per cent.

2. "Leopold's Description of the Placenta," and "On the Cervix and the Attitude of the Fœtus in Leopold's Sections," by Dr. A. H. F. Barbour. These are abstracts from Leopold's "Uterus und Kind," which Dr. Barbour, himself an eminent authority on the subject, characterises as "out of sight, the most important contribution which has yet been made to the Anatomy of Pregnancy." The first one describes a uterus and ovum at the end of the first week of pregnancy, obtained from a case of hysterectomy for cancer. This is the youngest ovum known. It shows, *inter alia*, that Berry Hart's theory regarding the mode of formation of the decidua reflexa is incorrect, because the decidua serotina is partially clothed with epithelium, while the reflexa is already almost completely

formed. Leopold is of opinion, from careful microscopic examination of the specimen, that the maternal blood circulates in the intervillous spaces, even at this early period; but Barbour regards the appearances as most probably due rather to blood extravasation. "The channel," he says, "must be built before the water finds its way along it, or the result is a marsh, not a stream."

There are many other points in these abstracts worthy of careful thought, but want of space forbids any mention of them. There is, however, one matter of practical importance, which is emphasised by Leopold in the description of a frozen section of a fœtus *in utero*, turned for placenta prævia, but undelivered, viz., that, when the child's thigh is gripped by a *rigid* os, the breech does not get down on the placenta so as to arrest hæmorrhage. This is contrary to the usual teaching, and demands careful clinical observation, with a view to its confirmation or denial.

3. "The Occurrence of a Non-Allantoic or Vitelline Placenta in the Human Subject," by Dr. J. W. Ballantyne. In his dissection of a sireniform fœtus the author discovered that the bladder and other parts formed from the allantois, and also the ductus venosus and hypogastric arteries, were absent, and that the placenta was supplied by a branch of the abdominal aorta. His arguments that the placenta of all such fœtuses is vitelline are ingenious and convincing.

4. "Senile Uterine Catarrh," by Dr. J. Halliday Croom. This condition is symptomatically very like uterine cancer, and Dr. Croom urges that "a due appreciation of it would save many an unfortunate woman from vaginal hysterectomy."

Among other important papers in this volume, the following may be mentioned:—"Intra-uterine Typhoid," by Dr. W. Fordyce; "Notes on Four Cases of Cæsarean Section," by Dr. R. Jardine; and "Toxæmia in Pregnancy," by Professor J. A. C. Kynoch.

Transactions of the American Surgical Association. Vol. XVI. Edited by DE FOREST WILLARD, A.M., M.D. Philadelphia: W. J. Dornan. 1898.

THIS volume, although in actual size not reaching beyond half those of the two years immediately preceding, contains not a little matter of considerable interest. From the papers contained in the *Transactions* for the past year, that by Senn is perhaps the one which is naturally singled out. Senn has set himself to extricate from a maze of unscientific and incongruous classifications the well-worn and important subject of cystitis. He discards many even of the more generally followed classifications of recent years, such as those of Guyon and Roosing, and at once predicates that "no classification is complete which does not indicate the anatomical location, clinical features, pathological characteristics, and bacteriological origin of the disease." Thus, from the anatomical standpoint, he distinguishes (1) pericystitis, (2) paracystitis, (3) interstitial cystitis, and (4) endocystitis; from the pathological, (1) catarrhal, (2) suppurative, (3) ulcerative, (4) exudative, and (5) exfoliative cystitis; from the clinical, (1) acute, (2) chronic cystitis; and from the bacteriological, quite a number of varieties due respectively to the effects of staphylococcic, streptococcic, gonococcic, diplococcic, &c., action.

It is, indeed, a pleasure to have a workable and thoroughly scientific basis thus put forward, and it ought to give great assistance in the therapeutics of this most difficult and often baffling branch of surgery. There are also embodied in the volume two papers dealing with the "Treatment of Inoperable Malignant Tumours," the one, discussing the subject generally, by G. R. Fowler, M.D., of New York; the other, by W. H. Richardson, M.D., of Boston, giving an account of a case of "apparently hopeless infiltration of left axilla and scapula by round-celled sarcoma in which, extirpation having been attempted and abandoned, extensive and severe wound infection was followed by disappearance of the tumour."

These papers are interesting in themselves, but particularly so in view of what is, perhaps, to many, that containing most hopeful material, viz., "An Inquiry into the Etiology of Cancer, with some Reference to the Latest Investigations of the Italian Pathologists," by Roswell Park, M.D., of Buffalo. In this paper the various theories which have from time to time had vogue amongst investigators and thinkers, popular and scientific, with regard to this subject, are shortly surveyed, and the general conclusions leave one little room of escape from the adoption of the "parasitic" theory, especially in the light of the successful cultivation by Sanfelice and Roncali—of the Universities of Cagliari (Sardinia) and Rome respectively—of species of blastomycetæ from the growing portions of malignant tumours and subsequent inoculations of animals from such cultures, resulting in the production of "tumours strikingly analogous to, or identical with, those from which the cultures were made," and even of metastases in various organs. Much contained in Park's summary thus given is new to most, and this article amply repays a careful perusal.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

NERVOUS DISEASES AND INSANITY.

By Dr. R. S. STEWART.

The Treatment of Insanity by Thyroid. By Middlemass (*Journal of Mental Science*, January, 1899).—This is a record of the effects observed in the case of thirty-four patients in the Edinburgh Asylum, and the following conclusions are drawn :—

1. The thyroid gland contains one or more substances which, on administration, are capable of exerting a powerful influence on the system.

2. In most cases this is evidenced by a rise of temperature, which may reach as much as four degree above the normal.

3. In a certain number of cases this rise of temperature is very slight or absent altogether.

4. It is at present impossible to predict in which case this rise will occur, and in which it will be absent.

5. The surrounding conditions as to temperature to some extent influence the reaction.

6. The rate and character of the pulse are affected in every case of thyroid administration.

7. These changes consist in an increase of rate, and an initial increase followed by a decrease of volume of the pulse.

8. As this is of constant occurrence, while rise of temperature is not, the effect on the pulse should be the main guide as to when sufficient thyroid has been given.

9. As the drug is cumulative, and is not rapidly excreted, care must be exercised not to push it too far.

10. As a rule, the full beneficial effects are obtained by giving doses of 60 grs. a day for six days, though in some less is sufficient, and in others 90 grs. can be tolerated without ill effects.

11. In a few cases small doses given for a prolonged period seem to produce a sufficient reaction.

12. It is absolutely necessary in all cases before beginning treatment to make a careful physical examination of the lungs and heart.

13. In cases where phthisis is active, or even dormant, the giving of thyroid always increases the activity of the disease process.

14. As thyroid also powerfully affects the heart, disease of that organ, especially such as causes irregularity of action, distinctly contra-indicates its use.

15. For the same reason, during the administration of the larger doses the patient ought to be in bed, and remain there for a few days after it has been stopped.

16. Thyroid causes digestive disturbance, which can usually be avoided by giving it in warm beef tea, and by placing the patient on light, easily digested diet.

17. After the treatment has been stopped, tonics and extra diet may be given, with beneficial results.

18. In a large majority of cases thyroid has also a distinct effect on the mental condition.

19. In many it has distinctly a stimulating action on the cortex.

20. In most cases there is a tendency towards the reproduction of the original mental symptoms.

21. The explanation of the action of thyroid in effecting recovery is still obscure.

22. It is quite clear that the beneficial effect is altogether independent of the temperature reaction.

23. Therefore, the initial idea of the treatment, viz., the induction of a feverish condition, is not wholly justified by the results.

24. It is at present wholly impossible to say what the result of thyroid administration will be as regards the mental condition.

25. It is equally impossible to say in what form of mental disease it will have a beneficial effect.

26. The ages of those who recovered were all between 24 and 35, and all but one suffered from some form of melancholia.

27. The ages of those who showed decided improvement varied within much wider limits, and age does not seem to influence the chances of recovery after thyroid more than after any other form of treatment.

28. The female sex seems to be more susceptible to improvement after thyroid than the male.

29. The reason for this is still unknown.

30. Even in cases which are regarded as hopeless, thyroid often produces so great an improvement that the degree of dementia is greatly lessened.

31. In no case was the treatment followed by prejudicial results, provided that care was taken to eliminate those suffering from physical disease.

32. It is highly probable that thyroid furnishes a reliable diagnostic of the chances of recovery—that is to say, if a patient does not improve under thyroid, the prospect of recovery is practically *nil.*

The State of the Superior Facial and the Common Oculo-Motor in Organic Hemiplegia. By Mirallie (*Archives de Neurologie,* January, 1899).—From the observation of thirty cases this writer concludes as follows:—

1. In every case of hemiplegia of cerebral origin, paralysis of the superior facial is the rule whenever the inferior facial is itself paralysed.

2. This paralysis of the superior facial is always much less accentuated than that of the inferior facial; it is also much less accentuated than in peripheral facial paralysis.

3. In hemiplegia the paralysis of the superior facial is, so to speak, latent, and requires to be sought for.

4. The narrowing of the palpebral fissure of the paralysed side can only be explained by the participation of the common oculo-motor in the paralysis.

5. The relative integrity of the superior facial, and particularly of the common oculo-motor, is not related to an anatomical disposition, isolating these nerves in the psychomotor zone; it results physiologically from the synergic mode of action of these nerves.

6. The superior facial has the same cortical centre as, or one very near to, the inferior facial. The cortical centres of the superior facial and of the levator palpebræ superioris are placed in the psychomotor zone.

The Toxicity of the Blood in Epilepsy. By Cololian (*Archives de Neurologie,* March, 1899).—From experimental research this observer finds that the blood of epileptics is generally more toxic, even in those who have not had a seizure for some time; that it is toxic before a fit, but most so after a seizure. He is not, however, disposed to regard epilepsy or the somewhat closely allied conditions, puerperal and infantile eclampsia, as purely toxic affections. There must, he believes, be a peculiar conformation of the cerebral cortex, such that the non-eliminated toxins suffice to excite the epileptogenous zones, and which is the outcome of hereditary predisposition and individual acquired peculiarity.

Biological Conditions of the Families of Epileptics. By Bechet (*Archives de Neurologie,* March, 1899).—The duration of life or longevity, this writer finds, is sensibly lower among the ancestors of epileptics than that presented by normal families. The average of births or natality is greater in families of epileptics than in normal families. Epileptics belong generally to large families. But, on the contrary, if epileptics show capacity for generation, this reproductive power falls to a distinctly lower level than that of the average for normal families. Epileptics tend to sterility. The power of life or vitality is much lower in the families of epileptics. The epoch of life in which vitality is least strong is early age, as in normal families, but this defect is much more pronounced among the epileptics. The frequence of different diseases or morbidity in families of epileptics presents quite special characters. Pulmonary diseases, phthisis in particular, occur often in their descendants. The neuroses and insanity are remarkably rare, confirming the opinion expressed by Lasegue that epilepsy is not hereditary.

SURGERY.

By T. W. JENKINS, M.A., M.D.

Remote Effects of Gastro-enterostomy.—Hartmann and Soupault (*Rev. de Chirurgie*, February, 1899), in a review of twenty cases, conclude:—

1. In the great majority of cases the symptoms disappear or are greatly diminished, appetite returns, and the general health improves. In two cases where this did not happen, there were extensive lesions (adhesive peritonitis). The good results are seen equally well in cases of pyloric stenosis and simple dyspepsia. Cases of the latter calling for operation are those which have not yielded to medical treatment, and mainly characterised by pain, with or without other dyspeptic symptoms, coming on a considerable time after ingestion (*syndrome pylorique*). The improvement in cases of non-malignant stenosis of the pylorus is very remarkable. In malignant disease it is otherwise. Any improvement is of slight duration, the anæmia and feebleness persisting. Resection, where possible, is the preferable operation.

2. The stomach resumes its normal dimensions often immediately after operation. If, however, dilatation has been slow and gradual, the retraction is apt to be imperfect; so, too, when there are adhesions.

3. No new sphincter is developed, but experiment shows that the stomach can be inflated to a considerable extent before the new orifice yields. This it does in response to muscular contraction. In one case where the stomach could not be distended, Murphy's button was found *in situ* a month after operation.

4. The motor functions of the stomach are slightly impared. Gastric digestion is prolonged, but the patient does not seem to suffer thereby.

5. Gastric secretion is profoundly influenced, but great varieties are observed. It is always retarded.

6. Bile is generally found in the stomach, and probably finds its way there *viâ* the new orifice. Its presence seems to have no special import.

7. Diarrhœa is frequent after the operation, but the bowels soon act regularly. Constipation disappears. The urine also assumes its normal characters. In stenosis of the pylorus the quantity of the urine and urea excreted is in strict proportion to the degree of constriction, whether that be caused by ulceration or carcinoma. Provided the kidneys are healthy, the amount of urine and urea depends upon intestinal absorption. Hence the improvement in the renal functions after gastro-enterostomy.

Details of the cases follow the foregoing general remarks.

Splenic Enlargement, Splenitis, Perisplenitis.—Cantlie holds that the normal splenic area can be properly percussed only when the patient is in the erect posture. The pleuro-colic fold of peritoneum which supports the spleen prevents descent, and compels the enlarged organ to travel forwards. It is only when this support is overcome that the spleen can fall downwards into the iliac fossa. Hence the change of position observed in the development of large splenic tumours. Early enlargement should be looked for high up in the epigastric region.

Contrary to the general view, enlargement of the spleen is the exception in uncomplicated cases of cirrhosis of the liver, and seldom attends fatty degeneration, hydatid disease, or abscess of that organ. It is enlarged in all infectious fevers. One of the commonest causes of perisplenitis is measles. The *pleuritic rub* at the base of the lungs in these diseases is a misnomer, being due to perihepatitis or perisplenitis. Permanent splenic enlargement is less common with continued than with paroxysmal fevers, the spleen accommodating itself if the disease advances slowly.

Excision of splenic tumours in uncomplicated cases gives good results. Ascites, when resulting therefrom, may be cured by *repeated* tapping.—(*Clinical Journal*, 1st March, 1899.)

Arthritis of Cerebro-spinal Fever.—Osler (*Boston Medical and Surgical Journal*, 29th December, 1898) calls attention to the remarkable joint complications in this disease. In a recent outbreak in Boston, arthritis was observed in 6 out of 111 cases. *Clinical Summary*:—Abrupt onset, with chill, fever, delirium, stiffness of neck, enlargement of spleen, multiple arthritis, patchy erythema of skin with purpura. *Lumbar puncture* and demonstration of *diplococcus intracellularis* in meningeal exudate; also in blood, and pus from knee-joint. Death on sixth day. *Post-mortem.*—Purulent cerebro-spinal meningitis, extensive collapse with areas of pneumonia at bases of both lungs; purulent arthritis. In another case with arthritis, paraplegia occurred. Laminectomy was performed, the spinal membranes irrigated, and much pus evacuated. The patient stood the operation well, but the paralysis persisted.

Osler thinks the disease due to a wide-spread diplococcus septicæmia.

The Present Status of the Anti-streptococcic Serum.—Cotton, reviewing the literature of the subject, concludes that there is some reason for continuing the use of the serum in cases of demonstrated streptococcus infection. It must, however, be carefully selected, and large doses are necessary. Many cases have borne 25 c.c. doses without bad effect. Till more evidence of its power is obtained, it should be used as an adjunct to other methods of treatment. A copious bibliography is given.—(*Boston Medical and Surgical Journal*, 2nd February, 1899.)

Resection of the Cervical Sympathetic Ganglia in Epilepsy, Exophthalmic Goitre, and Glaucoma.—Jonnesco (*C'blatt f. Chirurgie*, No. 6, 1899) has performed the operation first described by him in January, 1897, in 43 cases of epilepsy, 1 of epilepsy and chorea, 1 of epilepsy and Basedow's disease, 8 cases of the latter (5 being primary and 3 secondary), 1 of Basedow's disease and glaucoma, and 7 of glaucoma. No patient succumbed to the operation. His results are as follows:—(1) In *epilepsy*, 55 per cent cured, 28 per cent improved, 15 per cent uninfluenced. It is to be noted, however, that out of 45 only 19 are available for statistical purposes. (2) In *Basedow's disease*, of 10 patients operated upon 6 were cured, 4 improved. The exophthalmos first disappeared, the tachycardia and goitre later. The progress is not so good in the secondary form of the disease (thyroid enlargement preceding the other symptoms). (3) In *glaucoma*, great improvement in 5 cases, and better vision when the atrophy of the disc was not absolute.

In epilepsy and exophthalmic goitre complete bilateral resection (and not merely section) is called for. In *glaucoma*, removal of the superior ganglion is sufficient. An interval of eight days may be allowed before the other side is attacked. The article includes a short review and criticism of the works of other writers on the subject.

Hospital Construction.—Readers interested in this subject will find an elaborately illustrated description of the new Hôpital Broca (Paris) in the *Rev. de Gynécologie et de Chirurgie Abdominal*, No. 1, 1899. It has been constructed on the most approved aseptic principles, architect and surgeon working hand in hand throughout.

Other articles in this most admirably conducted journal are "Intestinal Exclusion," by Le Dentu; "Villous Tumours of the Rectum," by Quénu and Landel; "The Surgical Anatomy of, and the Ways of Access to, the Bile-duct." The illustrations are perfect.

Books, Pamphlets, &c., Received.

The Essentials of Chemical Physiology, for the Use of Students, by W. D. Halliburton, M.D., F.R.S. Third Edition. London: Longmans, Green & Co. 1899. (5s.)

Kirkes' Handbook of Physiology, by W. D. Halliburton, M.D., F.R.S. Fifteenth Edition. London: John Murray. 1899. (14s.)

Growing Children: their Clothes and Deformity, by E. Noble Smith. London: Smith, Elder & Co. 1899. (6d.)

The Student's Practical Materia Medica, by Grace Haxton Giffen, L.R.C.P. & S.E. Second Edition. Edinburgh: E. & S. Livingstone. 1899. (2s. net.)

The Sanitation of British Troops in India, by E. Carrick Freeman, Captain R.A.M.C. London: The Rebman Publishing Co., Limited. 1899. (2s. net.)

An Experimental Research into Surgical Shock: an Essay awarded the Cartwright Prize for 1897, by George W. Crile, A.M., M.D., Ph.D. Philadelphia: J. B. Lippincott Company. 1899. (12s. 6d.)

La Diphtérie, Nouvelles Recherches Bactériologiques et Cliniques, Prophylaxie et Traitement, par H. Barbier et G. Ulmann. Avec 7 Figures dans le texte. Paris: Librairie J. B. Baillière et Fils. 1899. (1fr. 50c.)

Les Régénérations d'Organes, par le Dr. Paul Carnot. Avec 16 Figures dans le texte. Paris: Librairie J. B. Baillière et Fils. 1899. (1fr. 50c.)

Formulaire des Médicaments Nouveaux pour 1899, par H. Brocquillon-Limousin. Avec une Introduction par Henri Huchard. Paris: Librairie J. B. Baillière et Fils. 1899.

La Rachitisme, sa Pathogénie, par le Dr. Albert Delcourt. Bruxelles: Henri Lamertin. 1899.

Elements of Alkaloidal Ætiology, introductory to the Study of Auto-intoxication in Disease, by A. M. Brown, M.D. London: Henry Kimpton. 1899. (2s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDING 25TH MARCH, 1899.

	WEEK ENDING				
	Feb. 25.	Mar. 4.	Mar. 11.	Mar. 18.	Mar. 25.
Mean temperature, . .	39·9°	40·4°	42·6°	45·8°	38·1°
Mean range of temperature between day and night, .	14·6°	12·7°	11·3°	15·0°	14·0°
Number of days on which rain fell, ...	0	3	6	1	2
Amount of rainfall, . ins.	0·0	0·18	0·37	0·02	0·82
Deaths registered, . . .	355	371	331	309	334
Death-rates, ...	25·2	26·3	23·5	21·9	23·7
Zymotic death-rates, . .	1·8	2·5	1·7	3·3	1·7
Pulmonary death-rates, .	9·4	10·1	8·6	6·7	8·9
DEATHS—					
Under 1 year, ...	66	72	66	59	60
60 years and upwards, .	92	82	67	50	61
DEATHS FROM—					
Small-pox, ...	...	...	...	...	...
Measles, ...	7	7	2	18	7
Scarlet fever, ...	3	4	2	3	2
Diphtheria, ...	2	1	1	4	1
Whooping-cough, . .	9	11	11	10	9
Fever, ...	1	4	3	4	2
Diarrhœa, ...	4	8	5	7	3
Croup and laryngitis, .	...	...	...	2	2
Bronchitis, pneumonia, and pleurisy, ...	123	120	95	67	81
CASES REPORTED—					
Small-pox, ...	...	...	...	...	...
Diphtheria and membranous croup, ...	5	6	10	8	7
Erysipelas, ...	16	16	24	26	28
Scarlet fever, ...	84	73	56	78	70
Typhus fever, ...	...	...	1	2	1
Enteric fever, ...	18	13	11	19	15
Continued fever, . . .	1	...	...	...	...
Puerperal fever, . . .	1	1	3	1	5
Measles,*	136	96	99	202	165

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *29th March, 1899.*

THE

GLASGOW MEDICAL JOURNAL.

No. V. May, 1899.

ORIGINAL ARTICLES.

SOME OBSERVATIONS ON THE TUBERCULIN TREATMENT.[1]

By T. M'CALL ANDERSON, M.D.,
Professor of Clinical Medicine in the University of Glasgow.

In the recent discussions which have taken place in various parts of the country on the prevention of tuberculosis, one of the most important points insisted upon has been the necessity of preventing tuberculous meat and the milk of tuberculous cows from being consumed: and, with practical unanimity, it was conceded that the injection of tuberculin was a very certain test of the presence or absence of tubercular disease in animals.

Now, what naturally occurs to one is this. How is it that the tuberculin test is confidently relied upon by veterinary surgeons for the diagnosis of tuberculosis in animals, while medical men, with rare exceptions, fail to take advantage of it in human beings when a doubt exists as to the diagnosis? This is, I think, mainly to be accounted for by the scare produced by the results of the rash and inconsiderate way in which tuberculin was used when first introduced, and from failure to recognise the fact that it is a powerful weapon for evil as well as for good. And perhaps some of those who have not had experience of it may have believed that, though useful in the case of animals, it was not to be relied upon in that of man. There can be no doubt, however, that it is just as efficient a test in the latter as in the former. I could give numerous illustrations of this; but one will suffice, which also illustrates its curative influence, though not quoted for that reason:—

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[1] Read at the meeting of the Medico-Chirurgical Society of Glasgow, 17th March, 1899.

Tuberculin as a diagnostic test.—A servant girl, aged 19, was admitted into the Western Infirmary on 15th January, 1898.

Family history.—This was excellent, except that one brother, aged 4 years, was said to have died of tubercular peritonitis.

Patient's history.—Two years before admission a small, dark red, almost livid spot appeared on the outside of the left thigh, which gradually healed in the centre and spread at the edges; the surface was dry and scaly, and there was neither pain nor itching. Shortly afterwards a similar patch appeared below the knee, which ran a like course, but it had healed up before admission, a cicatrix, which was brown at the edges, being left. Nine months before I saw her, pustules formed in the centre and at the upper part of the first patch, which ended in ulceration. The ulcerated surface continued to discharge a thick yellow pus, and undermined the skin, which had a livid tint. The diagnosis lay between hereditary syphilis and tuberculous disease. As I was inclined to think that it was probably tuberculous, I determined to test the point with tuberculin.

Treatment with tuberculin.—The first injection of the old tuberculin was given on 15th January, but there was no decided reaction till the third of 3 c.cm. of 1 in 1,000 on the 20th, which sent up the temperature to 100·4°, while the fourth (same dose) on the 23rd sent it up nearly to 103°, thus leaving no doubt of the tuberculous character of the ulceration. This treatment was therefore continued till the end of February, there having been twenty-one injections in all (the initial injection being 0·001 c.cm., and the largest 0·175 c.cm.), the total quantity used being nearly 1 c.cm. of the undiluted tuberculin. The only other treatment was 3 oz. of cod-liver oil daily, and she was dismissed quite well on 24th March, the whole duration of the treatment being about two months (chart shown).

Another field in which the utility of tuberculin has been demonstrated is in the discovery of unsuspected foci of disease. In a case of phthisis, related further on, the clinical evidences of disease were limited to the left lung, there being no trace of implication of the right; and yet, when the injections were commenced, moist râles appeared over the area of a crown piece near the right nipple, but these soon disappeared as the injections were continued. Again, in a case of lupus of the face, the tuberculin not only inflamed the face but lighted up pain in the right elbow-joint, which, too, soon disappeared. The following case also illustrates this point:—

W. S., aged 28, was admitted on the second week in January, 1891.

History.—He had had five attacks of hæmoptysis within thirteen months, occurring at intervals of two or three months, and he had two *fistulæ in ano* of nine months' duration. An examination of the chest showed entire absence of physical signs, with exception of weakened respiratory murmur at the right base.

Treatment and result.—He was treated with the old tuberculin; 13 injections were given in all, the first of 2 c.cm. of 1 in 1,000 on 16th January, and the last, fifty times stronger, on 17th February. Before dismissal on 13th March the following report was made:—He has had no hæmoptysis for six months, and *râles which appeared along with much pain at right base* after second injection gradually disappeared within a fortnight, and there are now no physical signs. Both fistulæ have completely healed. There has been great improvement in the general health, with an increase in weight of 9¼ lb.

The value of tuberculin as a therapeutic agent is also undoubted, although, of course, there are many cases to which it is unsuited. Its effects are best studied upon cases of external tuberculosis, because there the results can be seen. It is not my intention, however, to dwell upon this, seeing that I brought a series of such cases under the notice of the Society on 13th March, 1891; but I take the opportunity of showing you a case of lupus erythematodes which was cured (patient shown in whom the disease had existed on the cheeks, head, and knuckles, scars being left on the head [with alopecia] and cheeks). This case specially interested me, because most authorities are of opinion that lupus erythematodes is not a tubercular affection, as proved by the fact that there is no reaction to tuberculin. But this case is a proof to the contrary, because not only was the affection removed but there was constitutional, as well as local reaction, as the temperature chart which I now hand round shows.

In the treatment of internal disease, such as phthisis, I am inclined to think that the (new) T.R. tuberculin is safer than the old, while I prefer the latter for purposes of diagnosis, because by its means a distinct reaction can be obtained more readily. Time will not permit of my entering fully into this subject, but I may be permitted to give the notes of the last case in which it was used:—

J. M., aged 34, stationer, was admitted into the Western Infirmary on 1st December, 1897, on the recommendation of Dr. Service, of Mossend.

Family and personal history.—The only flaw in the family history is that one brother died of hæmoptysis at the age of 30. He had never been well since an attack of influenza three years before, and two years ago a short hacking cough set in, accompanied by a muco-purulent expectoration, in which he sometimes noticed blood. About this time also he began to lose flesh, and during the last two years had lost 2 st. For eighteen months he had suffered from night sweats, and during the last six had two attacks of hæmoptysis. For a few months, too, his strength had failed very much, and lately he had been almost unfit for work. Shortly before admission he was seen, after a long interval, by Dr. Service, who wrote—"When I saw him I was greatly shocked at his appearance; he had the appearance of a dying man, and came, as he said, that I might tell him the worst, and how long he had to live."

Condition on admission.—He was found to be pale and emaciated, with no appetite, troubled with night sweats, and with much expectoration, in which tubercle bacilli were found in great abundance by Dr. Ferguson; but there was no fever. There were no physical signs in the right lung. Over the upper lobe of the left lung in front there was moderate flattening and defective movement, decided dulness, marked increase of vocal fremitus, and slighter of vocal resonance, whilst moist râles with tubular breathing were heard on deep inspiration. Tubular breathing was also detected in the supraspinous region, and moist râles between the scapula and the spine. At the base there was slight dulness and feeble breathing; indeed, there was no part of the lung which was altogether free from signs of disease.

Treatment and result.—Dr. Service sent him to me with a view of having a course of tuberculin treatment, and, although I did not consider the case a very hopeful one, I decided to give him a chance with the new tuberculin, the only other treatment being cod-liver oil, up to 3 oz. per day. The first injection of $\frac{1}{1000}$ mg. was given on 12th December, 1897; the largest, 2½ mg., on 26th February; and the last of 1 mg. on 22nd April, 1898, the total amount used being about 31 mg. in forty-seven injections. From the time the treatment was commenced he improved steadily, more particularly as regards his general condition, and was dismissed at his own request on 28th April, when the following report was taken:—"The patient feels in good health; he can now read with comfort for hours, whereas formerly his eyes soon got tired with reading; his appetite is completely restored; the night sweats have long disappeared; his cough and expectoration are almost gone; and he has gained about 1 st. 6 lb. in weight."

After-history.—The last time I saw him was on 14th July, when he visited me at my request. I found that he had not fallen off in any respect, and that he had gained 7 lb. since dismissal, making a total gain of 2 st., his weight now being 12 st. 3 lb., which is his normal weight. He also stated that he could now do an ordinary day's work without fatigue. The improvement in the general was more marked than in the local condition. The expectoration showed that bacilli were still present, but in small numbers, and mostly found lying separately. The right lung remained healthy, while the condition of the left was as follows:—The flattening, defective movement, and dulness in front are not nearly so pronounced, and the râles, though still present, are scanty; while between the scapula and spine they have entirely disappeared, only puerile breathing being heard. The dulness and feeble breathing at the base are hardly perceptible. In a letter which I received lately from Dr. Service, he said—"When I saw him last, at the beginning of this week, he looked better than I have ever known him; he eats and sleeps well, and has hardly any cough. I feel satisfied that, whatever his ultimate fate, he would now have been in his grave had it not been for the treatment which was followed. On my advice he is looking out for a situation abroad."

It will be observed that the tuberculin treatment was not steadily increased, owing partly to a change of assistant during its course, and partly to the stock of tuberculin having temporarily run out. The full dose, too, was not reached, 2½ mg. being the largest injection instead of the maximum of 20 mg., because the patient felt so well as to desire to return home. The improvement, however, was so marked as to show undoubtedly the beneficial effect of the new tuberculin treatment even in pretty advanced cases.

Dr. Service was so pleased with the results in this case that he sent me a somewhat similar one recently, with a request that the same treatment should be tried if thought right. The tuberculin injections have just been commenced, and I bring the patient before you in order that you may examine him for yourselves, and satisfy yourselves of his condition. After the treatment has been carried out I hope to be able to bring him again under your notice, so that you may judge for yourselves how he has fared, although, of course, I cannot guarantee good results any more than in connection with any other kind of treatment. The following is a brief outline of his case:—

A pawnbroker, aged 22, was admitted to the Western Infirmary on 27th February, 1899, complaining of cough and expectoration of a year's duration. His family history is good, except that one brother died at the age of 23 of consumption.

Since the age of 19 he has been intemperate, and seven months ago, while in Ireland with two friends, he was drunk every night for a week on end. He was alway healthy, however, until three years ago, when he was laid up in consequence of a severe chill after a bicycle ride. During this illness, which lasted for a fortnight, he had high fever, and complained of great weakness and profuse sweating at night. He seems to have recovered from this attack, and remained well until a year ago, when cough set in, which gradually became more troublesome, and was soon accompanied by expectoration, at first clear and frothy, but gradually becoming thicker and muco-purulent. Latterly he has been losing flesh and feeling very weak, and about a month ago he spat up a small cupful of blood.

On examination of the chest the right lung presented no evidences of disease, but the whole of the left was more or less involved. Over the upper lobe, especially in front, there were flattening, defective movements, dulness and resistance on percussion, increased vocal fremitus and resonance, and coarse moist râles in abundance. There were also dulness and râles over the whole of the lung, diminishing as the base was approached. The sputum contained tubercle bacilli in small numbers. The digestive organs were fairly healthy, and the urine and temperature normal.

His weights were as follows:—

Eight months before admission, . .	10 st.	7 lb.
27th February, 1899 (day of admission),	8 st.	12 lb.
4th March, ...	8 st.	8¾ lb.
11th March (five days after tuberculin treatment was commenced), . .	9 st.	2 lb.

He had no special treatment from the time of admission (27th February) until 6th March, when he began to take cod-liver oil, and the first injection of the new tuberculin was given, the initial dose being 1 cc. 1·5000.

From this it will be seen that we are here dealing with a typical case of phthisis, and it will be interesting to see whether any improvement results.

It is held by many that, while the immediate results are undoubtedly good in most cases, relapses are very apt to occur after an interval of weeks or months. That is unfortunately true of many diseases, and especially so of tubercular affections. But the main reason for the relapses after tuberculin is, in my opinion, that the exciting cause (the tubercle bacillus) is alone attacked, while the predisposing causes are left untouched. The tuberculin ferrets out the tubercular lesion, inflames the part and destroys the tubercle bacilli, and it therefore exerts its influence locally, so to speak. But it has no beneficial influence upon the constitution, but rather the reverse, especially if it is not skilfully used, so that it is necessary to combine the tuberculin treatment with measures calculated to improve the general health, such as good food, pure air, cod-liver oil, tonics, &c.—*i.e.*, to change the nature of the soil which is favourable to the growth of the tubercle bacillus.

THE FEVERS OF WEST AFRICA: THEIR NATURE, TREATMENT, AND PREVENTION.[1]

By JOHN RITCHIE, M.B., C.M.,
Major, Royal Army Medical Corps.

> "O, fierce, dark land, unconquered still,
> Though doomed to our behest,
> How long ere thou hast drunk thy fill
> Of the blood of England's best?"

It is in these lines that one of the most promising of our younger poets apostrophises Africa, and it must be admitted that they are freely justified. The roll of African explorers is a brilliant one, but it is sad to think how many of them found a grave in the continent whose secrets they tried to discover, and it is a still more melancholy reflection how many useful careers have been cut short by the climate which has been in such bad repute from time immemorial. It is my belief, based on service on the coast and in the interior of West Africa, that much of this reputation is undeserved, that most of the disease in West Africa is caused by defiance of sanitary laws, and is therefore preventable. It may appear Utopian to look forward to a period when the dreaded Gold Coast will be stripped of the terrors which it has possessed since it was opened out to Europeans five centuries ago; but while not anticipating that it will ever be looked on as a health resort, I see no reason that the tremendous death-rate should not be reduced, and the "White Man's Grave" should become a colony where the risks to life should be little, if at all greater than those of other tropical countries. It must be remembered that in the early part of the present century the West Indies had as bad a reputation as West Africa has at present. Service there was looked on as almost certain death; but now, except for the occasional epidemics of yellow fever, which experience shows to be a preventable disease, invariably due to bad sanitary conditions, the West Indies is universally considered to be a healthy station. I do not despair of West Africa's evil repute having a similar history.

Among all those fevers which attack Europeans in Africa, malarial diseases, of course, take a foremost place. The nature of these diseases, in spite of the light thrown on them by recent bacteriological investigations, remains unknown. The

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[1] Read at a meeting of the Glasgow Eastern Medical Society held on 1st February, 1899.

evidence of their being due to the parasite first described by Laveran—the paroxysm being caused by some fever-producing substance set free by the breaking-up of the segmented bodies —is strong, but not as yet conclusive; and even if it is fully established, we are still in the dark regarding the method by which these parasites reach the body, and their life history apart from the body. The interesting discoveries of Major Ronald Ross appear to point to the mosquito being the host in many cases. The hypothesis is attractive from its simplicity, but I do not think it is sufficient. My experience is against the mosquito being the only host of the malarial virus. In the Gold Coast Colony, where malarial fevers are as common and as severe as in any part of the world, mosquitoes are very rare, while in Malta, where mosquitoes abound, malarial fever is unknown. That malarial diseases are dependent on insanitary conditions, and would probably disappear under perfect sanitary conditions appears, at the lowest, highly probable. Malaria was certainly a deadly disease in England as late as the seventeenth century, both James I and Oliver Cromwell, among our rulers then, succumbing to it. It has certainly been banished from our shores by sanitary measures, notably drainage improvements. There can be no doubt that it can be introduced through the medium of drinking-water, as has been known since the time of Hippocrates. I am myself, however, of opinion that in all the cases that I have treated, the virus has been introduced through the air. The water encountered by the troops of whom I was in charge on the march from Cape Coast Castle to Kumasi, was very indifferent, but they were free from fever much more than in Kumasi, where the water was excellent. So far, the evidence would point to drinking-water being an exceptional medium for the introduction of the disease.

PREDISPOSING CAUSES.

It is a commonplace in medicine that the most important of the predisposing causes of malarial fever is a previous attack. It is thus distinct from the zymotic diseases, in which a previous attack protects, but is rather analagous to such constitutional diseases as rheumatism, erysipelas, and dysentery. Season has an important effect on the development of the malarial fevers. This is undoubted, and is borne out by the experience of all who have resided in West Africa. The general impression is that both the number of cases and their severity are increased at the beginning and the close of the rainy season. As, however, no meteorological observations of any accuracy have been within my reach, I cannot speak with certainty on this point. Many other predisposing causes have been mentioned, but all resolve themselves into anything tending to depress the general health.

EXCITING CAUSES.

Among these the mysterious factor "chill" is still spoken of as the commonest, but it appears to me that, as a rule, in cases where disease is ascribed to "chill," the arguments by which the origin is proved are of the *post hoc ergo propter hoc* kind. In countries where the evening is cold and the day very hot, it is impossible for the European to escape chill. Where all are equally liable at all times to this chill, it is illogical to attach the slightest importance to this as a cause of disease. Of course, it is easy to find a chill preceding an attack of illness, but unless it is explained why men escape disease after severe chills, it seems to me it may be discounted as a cause of disease.

VARIETIES.

1. *Sun fever.*—A number of cases certainly resemble in clinical features the fever brought on in Europeans in non-malarial tropical and sub-tropical countries by exposure to the sun. This fever comes on suddenly, and has a high temperature rapidly declining, the duration being from three to seven days as a rule, but sometimes much longer. In Malta I have observed this type of fever frequently. In young soldiers who have never served in a malarial climate it always disappears in a few days when treated by an initial purge, rest in bed, diaphoretics, and milk diet. These fevers are of the continuous or remittent type, but in West Africa would seem to be, if not due to malaria, profoundly modified by it. Thus, the following cases would point to the curative effects of quinine:—

A. J. had fever for eight days, the temperature at first being 104°, afterwards varying between 102° and 104° from 19th August to 27th August. All this time he had no quinine. On the 27th I placed him on 15 grains of quinine twice a day; the temperature was normal in the evening, and remained normal till 31st August, when he was discharged from hospital.

N. P. had fever; treated by purgatives and diaphoretics from 28th August to 13th September. His temperature was between 101° and 102° for this time. On the 13th he was ordered 10 grains of quinine twice a day. On the 14th his temperature was normal, and he made a good recovery from that date.

These cases are the most striking, but several others also convinced me that in West Africa the ordinary febricula recovers more rapidly when treated by quinine than without it. In Malta, where malaria is not endemic, my experience was that quinine retarded recovery in all cases of sun fever unless the patient had previously resided in a malarial country.

It appeared to me a remarkable fact that a fever corresponding in its clinical features to the sun fever produced in young Europeans when they first visit the tropics seems to be induced in negroes by cold. Thus, as will be mentioned later, there were many cases of fever in men of the West India regiment on their arrival in Kumasi from the coast. To my mind, one reason for this was that they had exchanged the equable temperature of the coast for the more variable temperature of the interior, where the nights and early mornings are cold. Some would explain this from the greater liability to "chill," but I think, as I have before said, rather too much importance has been attached to this as a cause of disease in the tropics.

2. *Intermittent fever.*—It is a remarkable fact that true intermittent fever is very rare on the coast of West Africa, unless the patient has before served in a malarious country. Thus, in officers of the West India regiment, all of whom had served in the West Indies, 50 per cent of the cases of fever I treated were cases of true ague, while among the men, who, being acclimatised, do not suffer from malaria in the West Indies, only 1 out of 72 cases of fever was true intermittent fever. In the interior, however, while intermittent fever is rare, it is commoner than it is on the coast; thus, in one month at Kumasi there were 15 cases of ague against 108 of remittent fever. Also, the cases of remittent fever that do occur approach more to the intermittent type than do those seen on the coast. The symptoms of this variety are too well known to be worthy of mention.

3. *Remittent fever.*—The chief peculiarity of this fever in West Africa is that there is seldom that feeling of *malaise* described in other countries as preceding the attack. My experience has been that the patient is very suddenly attacked, and has generally rather an exalted sense of perfect health

just before the seizure. The fever has the usual symptoms, the average duration of the attacks being five or six days. Relapses occurred in 12 per cent of my cases, but though I have carefully gone through the temperature charts of all the cases I treated in 1897 and 1898, I have not yet seen a single case bearing out the experience of Dr. Marchoux, in his interesting paper called "Paludisme au Senegal," in which he states that relapses usually occurred exactly twelve days after the original attack, and attempts to establish a connection between these relapses and the changes occurring in Laveran's parasite at the same date.

4. *Black water fever.*—This disease is also variously called bilious remittent fever, or pernicious remittent fever, but all my observations have led me to consider the diseases called by these names as identical. It presents quite different features from the other varieties. It is much more fatal, being the disease which causes nearly the whole of the mortality among new comers. The following cases are examples of its symptoms:—

CASE I.—A. D. arrived in Cape Coast Castle on 6th May, and was attacked by what was called remittent fever on 9th May. The disease appeared to be of a severe type, and was characterised by bilious vomiting, headache, pains in the limbs and body, tenderness over the liver, and temperature ranging from 101° to 104°. On the 11th there was marked icterus, which remained to the end of the disease, and from this date the urine was albuminous and diminished in quantity. On the 15th bilious vomiting occurred, and the temperature was continuously at 104° morning and evening. Through the night he was seized with violent hiccough, and began to vomit black coffee-ground matter. In spite of all treatment he never rallied, and died in the forenoon of the 16th May. The treatment consisted in antipyrin, quinine, stimulants, &c.

CASE II.—S. B. arrived in Cape Coast Castle on the 11th inst., and was attacked by "remittent fever" on the 21st. The case was apparently of the usual character till the afternoon of the 23rd, when he developed coffee-ground vomiting. The symptoms disappeared the next day, when jaundice appeared suddenly, and persisted for about a week, but gradually decreased from the date of its appearance. The urine was albuminous from the 23rd to the 28th. On the latter date, his temperature, which had been 105° on the 21st and remained between 103° and 105° till the 26th, when it dropped to 100°, became normal, and by the 31st he was well enough to proceed on leave of absence, though he was extremely debilitated—so much so that he could not return to duty for eighteen months.

Case III.—W. S., aged 26 years, taken sick on the night of 16th August.

17th August.—Morning temperature, 104·2°; pulse, 116. There was much headache and congestion of the conjunctivæ. Given 1½ oz. of castor oil. Evening temperature was 105·2°. Passed 6 oz. of urine, non-albuminous; skin acting freely; headache improved.

18th August.—Temperature, 103·6°; pulse, 106. He had some bilious vomiting during the night. He passed 5 oz. of urine containing albumen in small amount. Evening temperature, 103·6°; pulse, 106.

19th August.—Morning temperature, 102·8°; pulse, 88. He passed 8 oz. of urine, still slightly albuminous. The skin acted well, but there had been vomiting. He was placed on a pint of champagne daily. In the evening the temperature was 103·8°; pulse, 84. Vomiting had stopped, but there had been some epistaxis.

20th August.—Morning temperature, 103°; pulse, 79. Urine 12 oz., slightly albuminous. Slight epistaxis, bowels acting freely. He vomited through the day. Evening temperature, 104·4°. Jaundice observed.

21st August.—Temperature, 101·4°; pulse, 90. Urine 12 oz., albumen much increased. The epistaxis continued. He was put on ergot. Evening temperature, 100·8°; pulse, 84.

22nd August.—Morning temperature, 101°; pulse, 104. Passed 20 oz. of urine, albuminous. The epistaxis is increasing, and there is also bleeding from the gums. A mouth-wash of potassium chlorate and tincture of perchloride of iron was used. Evening temperature, 103·2°; pulse, 86.

23rd August.—Morning temperature, 101·6°. Urine 18 oz., albuminous. Bleeding from gums ceased. Evening temperature, 100·8°. Severe epistaxis. Champagne stopped.

24th August.—Morning temperature, 101°. Urine 24 oz., dark-coloured and very albuminous. Epistaxis disappeared yesterday afternoon, but hiccough appeared. Pulse very feeble. Champagne again ordered. Delirious.

26th August.—Morning temperature, 101·6°: pulse much stronger, but respiration laboured. No more hæmorrhage.

Four oz. of black urine, very albuminous, passed. Evening temperature, 99·6°. Very weak. Died at 3 A.M. on the 27th.

Case IV.—J. W., aged 24 years, taken sick on 28th August. Temperature, 101·6°; pulse, 94. Eyes injected. Had no rigor nor preceding malaise. Two oz. of castor oil prescribed.

29th August.—Morning temperature, 100·2°; pulse, 74. Urine 14 oz., non-albuminous. Skin acting freely. Abdominal pain relieved by fomentations. Evening temperature, 100°.

30th August.—Morning temperature, 101·4°; pulse, 92. Urine 18 oz., non-albuminous. Slept well. Evening temperature, 102°; pulse, 82.

31st August.—Morning temperature, 101·6°; pulse, 82. Urine 10 oz., non-albuminous.

1st September.—Morning temperature, 106°. Urine 12 oz., non-albuminous. Had 15 grains of antipyrin, which reduced the temperature to 103°. Evening temperature, 104°. Skin acting well.

2nd September.—Morning temperature, 103°. Urine 9 oz., and for the first time albuminous. Slightly delirious. Evening temperature, 103·6°. Slept well after morphia injection.

3rd September.—Passed 14 oz. of urine, highly albuminous and dark-coloured. Temperature, 101·6°; pulse flagging: stimulants increased. Evening temperature, 102·4°; pulse stronger. Marked jaundice occurred through the day.

4th September.—Morning temperature, 101·6°. Urine 5 oz., very thick and dark-coloured. Sinking; died at 1 P.M.

Post-mortem appearances.—Body much emaciated. Rigor mortis well-marked. Jaundice, which had disappeared before death, now well-marked. Very small cavities, probably tubercular, existed in the apices of both lungs, and over this region the pleura was adherent. The heart showed extreme fatty degeneration, oil appearing on the knife after section. The spleen was unaffected. The liver was enlarged, and also showed typical fatty degeneration. The kidneys were somewhat congested, but otherwise normal.

From the time I first observed this disease I was struck with its resemblance to yellow fever, and I consider it probable that some of the cases, at least, described as black water fever and by the other names mentioned are in reality cases of yellow fever. The points on which I would lay stress in urging this are as follows:—

1. Both diseases occur in towns where the sanitation is very

bad. Thus it will be pointed out later on that in Cape Coast Castle, where the four cases quoted occurred, the sanitary conditions are very bad.

2. In the cases given, there is an absence of periodicity as in yellow fever.

3. The urine in these cases is diminished in quantity and albuminous.

4. The spleen is unaffected as in yellow fever.

5. Jaundice occurred in all, and only at a late period of the disease, and was accompanied by grave symptoms. It also disappeared before death, and reappeared after death, as in yellow fever.

6. As in yellow fever, the negro race enjoyed immunity. Thus, the first two cases given were those of officers in the West India regiment. Two out of seven Europeans were attacked, while two hundred black soldiers, stationed in the same barracks and under similar conditions, showed no cases. In the other two cases the patients were Europeans, and none of the black population suffered.

7. Quinine, so beneficial in malarial fever, is generally considered as useless in black water fever as in yellow fever.

8. Black vomit I consider pathognomonic of yellow fever. It occurred in three of the four cases I have quoted. The experience of most authorities on yellow fever is that it is a frequent, but by no means a constant, symptom. In one case I had the opportunity of putting the vomited matter under the microscope, and it consisted of the altered blood corpuscles mixed with hæmoglobin and mucus described in the black vomit of yellow fever.

9. The only *post-mortem* I was able to make gave exactly the *post-mortem* signs which occur in yellow fever.

These considerations induce in me the belief that the four cases just quoted, which were returned as pernicious remittent fever and black water fever, were really yellow fever. All cases of fatal fever in Europeans I have seen, and nearly all I have heard of, presented analogous features to those I have described—especially all have presented the characters of having occurred in insanitary places, and been accompanied by jaundice and suppression of urine. I therefore consider that a certain proportion, if not all, of these cases are really yellow fever. Other cases described to me as black water fever have appeared to me to be only severe cases of malarial remittent fever; and if black water fever exists as a separate disease, I have not yet come in contact with it.

Treatment.

1. The sheet-anchor in the treatment of malaria is quinine. It is as certain an antidote to the malarial poison as ipecacuanha is to dysentery, salicin to rheumatism, and mercury to syphilis.

It is a fact strikingly illustrating the imperfect state of medical science, in spite of the brilliant discoveries of the last half century, that these diseases—viz., malaria, rheumatism, dysentery, and syphilis—to the treatment of which the physician advances with most confidence, knowing himself to be possessed of weapons which can be used with certainty, and never fail him, are entirely those of which the pathology is, on the whole, so unsatisfactory. No satisfactory explanation has been offered of the therapeutic action of these drugs. All have been discovered empirically, and yet they are probably the most certain the physician possesses in their combative action against the diseases of which they are the foes.

Some practitioners advocate the use of very large doses of quinine; but personally I have had better results with moderate doses, and consider it is seldom advisable to give more than 30 grains a day; and, as a rule, 20 grains daily is all that is required. It is best given in two or three doses of 10 grains, choosing the periods of the remission and intermission. The idiosyncrasy of the patient is, of course, to be considered; and, as a rule, it is best to produce very slight cinchonism. The distressing symptoms of severe cinchonism are to be avoided as unnecessary to the cure of the disease, if not hurtful.

2. An initial purge is of great importance in the treatment of the disease, and calomel combined with other cathartics is the best form. The dose should be fairly large.

3. Antipyretics. Though these are occasionally of value, I consider their habitual use to be bad treatment. They are hardly ever required when the temperature does not go over 103°. There is always much depression following their use. In true intermittent fever I do not think they are of any use, as the paroxysm takes its course unmodified by the drug. Antipyrin in 15 grain doses and phenacetin in 10 grain doses I have found the best. Larger doses, especially of the latter drug, are risky owing to the effect on the circulation. In real hyperpyrexia, better than either is the wet pack or the cold bath. Tepid sponging is always beneficial, and very comforting to the patient. The practice, far too common in

Africa, of laymen carrying about antipyretics, and swallowing them indiscriminately when not feeling well, cannot be spoken against too strongly. These powerful drugs should never be taken except when medically prescribed.

4. Arsenic is of use more in malarial cachexia than in the fever, as far as my experience goes, and I am inclined to regard it more as a hæmatinic than as an antagonist to the malarial poison. I do not think it can ever take the place of quinine.

5. Convalescence from malarial fever being attended by great anæmia, iron is of great use. Blaud's pills I have found the most useful form.

In the treatment of so-called black water fever most attention must be paid to dieting and nursing. Stimulants in quantity and a bland but nourishing diet are always required. Compound jalap powder, and pilocarpine hypodermically, I regard as useful when symptoms of suppression of urine arise, and calomel, like all other mercurials, I should consider inadvisable on account of its well-known action on the kidneys.

PREVENTION.

This subject divides itself into two parts.

I. *Individual prevention.*—By this I mean the measures which should be taken by the individual to maintain health. The only special points I would touch on are:—

1. *Soil.*—Avoid marshes and valleys as the site of habitations, and, if possible, have the house raised on piles.

2. *Water.*—Boiling is more efficacious than even the best filters. The water should be boiled for at least twenty minutes when suspicious.

3. *Ventilation.*—The old-fashioned idea that it is dangerous to have doors and windows open at night still prevails to some extent in West Africa, and these are often closed with the idea of keeping out the malaria, but really with the effect of deteriorating the health of inmates by their sleeping in a polluted atmosphere. It is needless to say that this custom should be given up.

4. *The food should be nutritious and digestible.*—Here, as elsewhere, over-eating is the chief mistake. Three meals a day only are necessary, and one of these should be very light. Though I am not one of those who consider alcohol a necessary article of diet in a state of health, I think that in the artificial conditions in which the European lives in West Africa its employment in moderation is highly beneficial. In missionary

societies we see this illustrated. Teetotalism is the rule in United Presbyterian missionaries, and this body has the highest death-rate in West Africa. On the other hand, in the Basil mission, where officials are supplied gratuitously with a moderate allowance of hock and lager beer, the death-rate is low, though very little care is taken in the selection of men for the work and they encounter greater hardships than the United Presbyterians. The experience of travellers in West Africa also bears out this view. Sir Richard Burton, whose experience of West Africa was very great, says that the teetotaller dies first, the drunkard next, and the moderate drinker survives. This somewhat epigrammatic assertion may be exaggerated, but I am of opinion that the moderate drinker, other things being equal, has a better chance of preserving his health in West Africa than the abstainer. Anything depressing the system makes the body a suitable nidus for the growth of bacteria, and the unrivalled power of alcohol for removing a sense of fatigue makes it a potent agent for the protection of the body at frequent seasons. It is of course necessary, however, that the amount of alcohol should be regulated carefully.

5. *Exercise.*—The dweller in West Africa, as a rule, takes much too little exercise. In most men, exercise equal to a walk of about 6 miles daily is required. The best time for this is the morning or evening, but it is better not to go out before the morning mist has risen. Exercise during the daytime is not dangerous, however, as the sun is not to be feared if a good sun-hat is worn.

6. *Quinine* should be taken regularly as a prophylactic measure. On this subject I know there is much difference of opinion, but all my experience points to its value. In my own case, the only attack of fever I had in fifteen months was after stopping for twelve days the quinine I had been taking regularly previously. I know of four cases of men who had frequent attacks of fever until they began to take quinine regularly, and afterwards never had an attack. Everything I saw pointed to the value of quinine in either warding off attacks of malaria or modifying them. The spasmodic taking of large doses of quinine instead of small doses daily I regard as worse than useless, though advised by so high an authority on malarial disease as Dr. Patrick Manson, who advises a large dose once a week. It is with diffidence that I express my disagreement with so eminent a gentleman, but I would submit that unless the system is kept constantly fortified against the malarial germ, no good can be done by quinine as

a prophylactic. To take a large dose once a week means that this is neglected, and, besides, a large dose of quinine upsets the digestion and causes depression, and thus interferes with the great precept of always keeping the system at its best in order to resist unfavourable influences. The dose I would therefore recommend is from 3 to 5 grains daily.

II. *General means of prevention.*—That most of the disease in West Africa is due to the deplorably bad sanitation that exists I firmly believe. The following comparison of statistics of sickness between Cape Coast Castle and Kumasi bears this out:—Thus in the case of the troops I was in charge of at each place I found—In Cape Coast Castle, 70 cases of fever occurred in an average strength of 118, or 589 per 1,000 per annum; in Kumasi, 109 cases occurred out of 138, or 790 per 1,000 per annum. In Cape Coast Castle the average number constantly sick was 4·12, or 24·3 per 1,000; in Kumasi it was 5·97, or 43·5 per 1,000.

So far, the figures all point in favour of Cape Coast Castle, but when we look at the average duration of each case of fever the facts look quite the other way. In Cape Coast Castle the average duration of each case of fever was 15·63 days; in Kumasi, 7·49 days.

It would thus seem that if more cases of fever occurred in Kumasi, the cases were of a much milder type. The fact that only one case in Kumasi was in hospital over a month, and was then discharged, after forty-six days' treatment, to duty, perfectly recovered, while three cases in Cape Coast Castle were in hospital over a hundred days, and had then to be invalided, confirms this. It is also noticeable that only two Europeans have died in Kumasi since its occupation in the beginning of 1896, while the death-rate among Europeans in Cape Coast Castle has been of recent years never less than 20 per cent, and has been as high as 60 per cent.

I would offer three explanations of the large number of cases of fever admitted in Kumasi:—

1. The temperature in Kumasi is not so uniform as on the coast. It is hotter during the day and colder at nights. The troops having been for the last three years on the coast, could not at once accommodate themselves to this, and the cold, to which black troops are very sensitive, gave rise to slight cases of fever.

2. The troops were in Kumasi at the beginning of the rainy season, the most unhealthy time of the year.

3. The troops at Kumasi were on field service, and were

thus necessarily exposed to much greater privations than in their comfortable quarters in Cape Coast Castle.

The reason of the milder character of the fever at Kumasi I regard as solely that Kumasi is a sanitary station, while in Cape Coast Castle every sanitary law is defied. Thus, all the huts are built on the lowest part of a soil polluted by the filth of centuries; the town is built near a land-locked lagoon, from the shallow water of which noisome emanations arise to add to the pollution of the atmosphere. The huts are built so close together that ventilation is very defective. The conservancy arrangements are of the most primitive character. Up to the autumn of 1897 there were only three latrines, with eighteen seats each, for the entire population. These latrines were constructed on the principle of discharge into the sea, but as they were not carried beyond the tide mark, excrement was simply dropped into the surf, churned up, and deposited on the shore. More latrines have now been added, but they are still quite inadequate in number to the requirements of the population, and the excrement not being carried to low water, the system leads to an accumulation of ordure on the shore. At the same time, the streets, bye-paths, and bush near the town are used as latrines, as, though regulations forbidding defæcation in the street exist, these highly necessary rules are not carried out, and it would be impossible to enforce them owing to the deficiency of latrines.

The water-supply, being partly from rain water falling in an atmosphere polluted by the conditions just mentioned, and partly from shallow wells dug in the contaminated soil, is highly dangerous; and the industry of fish-curing, which takes place in the huts without any regulations, adds to the impurity of the atmosphere.

It will be seen that these conditions are just those likely to increase the virulence of ordinary disease, and to give rise to epidemics of yellow fever and other like diseases produced by filth, and I think that this is the explanation of the fact that ordinary fevers are more severe in Cape Coast Castle, and that epidemics of a fatal disease occur at times.

In Kumasi, on the other hand, the conditions are on the whole sanitary. The position of the town, built on a plateau sloping gradually in every direction, favours good drainage. The water-supply is pure and abundant, coming from springs removed from all sources of contamination. The ventilation is good, the Ashanti system of building huts, which consist of what may be described as four small sheds opening on a roofless court, being perfect as regards this important point.

The conservancy arrangements are good, consisting partly of latrines with pails, the contents of which are carried to a distance and buried, and partly of trenches to which earth is added daily, and the regulations forbidding defæcation except in the latrines are carried out strictly. Under these circumstances, it is not to be surprised at that Kumasi has so good a health record.

I think the facts quoted speak for themselves, and bear out the hypothesis I have advanced. From all I could learn, the other coast towns in Gold Coast Colony, and the other West African colonies, are as insanitary as Cape Coast Castle, and I am of the opinion that the answer to the question asked of Africa in the beginning of this paper—

> "How long ere thou hast drunk thy fill
> Of the blood of England's best?"

is, as long as English officials refuse to act on the sound principles laid down by sanitary investigators, so long will England pay in blood for her defiance of sanitary laws.

FRONTAL SINUSITIS, WITH SEVERAL ILLUSTRATIVE CASES.[1]

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TO-NIGHT I wish to draw your attention to inflammations of the frontal sinus, and to show several patients in whom the frontal sinus was opened for the cure of various conditions which had led to persistent suppuration.

The superciliary ridges mark the site of the frontal sinuses. They are situated one on each side between the two "tables" of the frontal bone, and in close proximity to the root of the nose. They vary greatly in size and extent in different individuals; and the two sinuses are usually separated from each other by a bony (or partly bony and partly fibrous) partition, which, however, is occasionally incomplete.

Of the three walls which bound the sinuses the outer is the thickest, the orbital or inferior is the thinnest, while the inner or cranial wall occupies an intermediate position. Each sinus communicates with the nasal fossa on the same side through a canal or infundibulum, and this irregularly shaped passage, beginning at the lowest part of the sinus, is directed downwards, and opens into the anterior part of the middle meatus under cover of the middle turbinated bone, and slightly in front of the nasal opening of the antrum of Highmore. Occasionally those two passages, namely, that leading from the frontal sinus and that from the maxillary sinus, communicate with each other or unite to form a common opening. Where such an abnormality exists, secretions from one cavity may pass into the other—that is, fluids from the frontal sinus may flow from the higher into the lower cavity, while pus originating in the maxillary antrum may, by capillary attraction, pass upwards and into the frontal sinus.

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[1] Paper read and cases shown at a meeting of the Glasgow Medico-Chirurgical Society held on 3rd March, 1899.

The sinuses are lined by a continuation of the mucous membrane of the nose; but, in contrast to this vascularity of the lining membrane of the nares, it is here thin, pale in colour, and firmly adherent to the bony wall.

From those anatomical facts it will be readily understood how an inflammation of the lining mucous membrane of the nose may spread from the nasal cavities upwards and affect the lining membrane of the frontal sinuses. And it is the rule rather than the exception for catarrhal inflammations of the nose to do so.

I presume that we all have experienced the discomfort, to put it mildly, of a headache from "the cold," caused by a congestion and consequent swelling of the lining membrane of one or both sinuses, along with, it may be, the temporary retention within the cavities of the resulting secretions. Fortunately, those cavities, as has been stated, are drained from their *lowest* point, so that, as the inflammatory swelling subsides, the secretion in most instances readily escapes, and pressure and pain are relieved.

Another important factor in the removal of secretions from the frontal sinus is the readiness with which air enters it. This may be demonstrated by getting a patient whose frontal sinus has been operated upon, and portion of the outer wall removed, to blow the nose, when air, forcing blood or mucous before it, escapes freely. When the sinus is inflamed, and there is a tendency for the somewhat tenacious secretions to become retained, air is forced up into the sinus during the act of nose-blowing, and its compression in that cavity usually expels any fluid contained therein.

But occasionally the excretory duct of the sinus becomes occluded. This blockage may be from greater swelling—œdema—of the mucous membrane, the result of a more intense inflammation. This not infrequently occurs during epidemic influenza. In some cases the occlusion is rendered complete by the presence of intranasal new growths, and in others the cause is to be found in some deep-seated inflammatory process, usually syphilitic, implicating the periosteum and bone in the region of the infundibulum. Whatever the cause in any individual case may be, pressure is excited within the sinus by the pent-up pus, when pain, and in many cases deformity, results.

Pain is especially complained of over the region of the affected sinus, but by reflection along the branches of the trigeminus it may be complained of over a much greater area. The pain is aggravated by exertion, by coughing, and by stooping.

Deformity.—The contour of the outer wall, which is the thickest, is least readily altered by the pressure from within, but pressure on the inner wall may give rise to symptoms of intracranial tension, as in the first case to be referred to. Should this wall become eroded, a frontal abscess or a suppurative meningitis would inevitably follow. The inferior wall of the sinus being the thinnest is most readily, and is, in fact, most frequently, distended, in which case the eyeball is forced downwards and outwards, as will be seen in the photograph (Fig. 1, p. 344) of Case II.

On inspecting the interior of the nose, creamy pus may be seen occupying the middle meatus on the affected side, and in addition to this purulent secretion some local pathological changes may be observed.

Acute frontal sinusitis leading on to suppuration and deformity is rare. Latent empyema, on the other hand, is of not infrequent occurrence; and in most cases it has existed for many months, and in some for years, before advice is sought.

The symptoms of *latent empyema* are neither numerous nor characteristic.

1. There is first a purulent nasal discharge, invariably, as far as my experience goes, one-sided, not abundant, and occurring intermittently.

2. Pain of a dull character, increased by stooping and occasionally increased by pressure on the orbital wall of the sinus, is complained of, and this pain is worst when discharge is least, and is again relieved by the free escape of pus. One of my patients, who is here to-night, was, as a rule, compara-

tively free from pain during the early part of the week, but by Friday the pain over the frontal sinus became severe, and increased in severity until well on on the following day, when it was suddenly relieved by the escape of a quantity of pus.

3. In many cases the odour of the pus lodged in the nose is a source of great annoyance to the patient, whose sense of smell is not impaired, although no odour is perceived by those in close association with the patient.

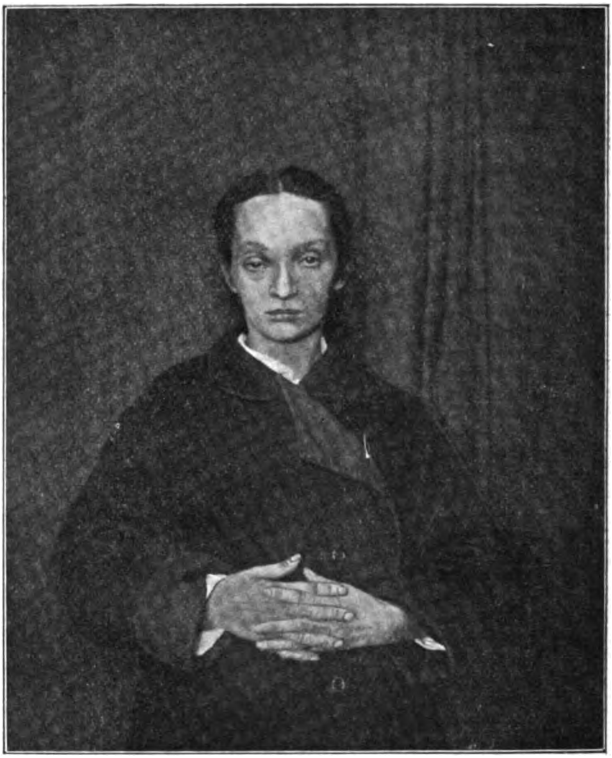

FIG. 1.

4. On intranasal inspection we may meet with mucous polypi, and where there are no actual outgrowths we are almost sure to find an œdematous swelling of the mucosa over the anterior end of the middle turbinated bone. Under cover of this bone creamy pus will be seen. If this discharge be mopped up, and

the part be again examined, a bead of pus will slowly appear and will gradually enlarge as the quantity increases.

Now, those same symptoms may be present when there is suppuration in the anterior ethmoidal cells, and without there being any involvement of the frontal sinus; and, also, they may be complained of in many cases of empyema of the antrum of Highmore. By trans-illumination, however, the condition of the latter cavity can be readily ascertained, so that doubt as to the state of the maxillary sinus need not be further considered.

Suppuration, as is known, may affect several sinuses in the same individual; but my experience does not agree with that of Clive, who says that in all his cases of frontal and ethmoidal sinusitis the antrum contained pus. On the other hand, I can say that I have found the anterior ethmoidal cells to be the seat of a suppurative process in five out of six cases of latent empyema of the frontal sinus, and in most cases I believe that the suppurative inflammation originated in the ethmoidal cells.

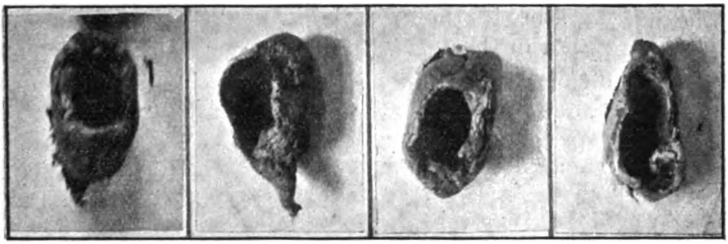

FIG. 2.

In operating for the cure of chronic suppuration within the sinus I am guided by this experience; but before describing the *modus operandi* I would mention that, in my opinion, attempts to dilate by means of bougies, or to catheterise the passage from the middle meatus of the nose to the sinus, are futile; and attempts made to tap the floor of the sinus by trocar and cannula introduced through the nose are not only futile, but fraught with great danger.

Operation.—The first stage in the operation is the removal, under cocaine, of the anterior third or somewhat more of the middle spongy bone on the affected side by means of the electric cautery and cold-wire snare. The condition of the cells found in the portions removed varies greatly, and in some of those here shown it will be seen that one cell has developed or become distended, at the expense of neighbouring cells, to form the walls of a large bony cyst (Fig. 2, p. 345). This portion of bone having been excised, the fronto-ethmoidal cells are then, or subsequently, broken down by means of a small curette, and thus not only are infected and freely communicating cells destroyed, but one possible cause of obstruction of the passage from the frontal sinus is removed. When the surfaces operated upon have healed, the patient is placed under chloroform and the sinus is opened through an external incision. One of two incisions may be chosen. First, the incision may be made in the middle line. This was adopted in two of the cases here to-night, and is selected where there is a probability that both sinuses require exploration. In neither case has the scar caused any disfigurement, and in one it is almost imperceptible. Secondly, where one sinus alone is involved, and this is the usual state of matters, an incision along the superciliary ridge, and thus in the line of the eyebrow, is to be preferred. This was employed in the other cases shown. The incision having been made down to the bone, the periosteum is raised over the area of the sinus, and, with the lips of the wound kept well apart with retractors, the anterior wall of the sinus is perforated. This may be accomplished by a hand or dental drill, or by means of a mallet and gouge. The greater part of the anterior wall should be removed in order that the cavity may be satisfactorily examined, and any abnormality present dealt with. The edges of the opening in the bone should be made perfectly smooth.

The sinus, on being opened, is usually found to contain pus, but, on the other hand, it may be empty at the operation. This was found to be the case with the girl, in whom the pain over the sinus increased towards the end of each week, but the lining membrane was greatly thickened and deeply injected, and the operation was followed by entire relief from pain and disappearance of purulent nasal discharge. Limited necrosis of portions of the walls, and accompanied by granulations, was found in three cases; the cavity was packed with mucous polypi in one; and a subacute inflammation of the lining mucous membrane was present in the others.

After the cavity has been cleared, a director is passed downwards into the nose. Patency of the passage is thus ensured, and any remaining ethmoidal necrosis can be curetted. I now never insert any drainage-tube, but I pack the cavity—the sinus—firmly with cyanide gauze, and the end of the packing is brought out through a counter-opening made close to the inner canthus of the eye. The incision is then closed throughout its length, and in each case it has healed by first intention, and in each case the resulting cicatrix is entirely hid by the newly grown eyebrow. The packing is left in position for from seven to fourteen days, and then withdrawn through the small counter-opening.

The following is a summary of the cases shown at the meeting:—

Case I.—William G., a miner, aged 35, was referred to me at the Western Infirmary on 3rd March, 1898, by Dr. Kerr, of Cumnock. He complained of a purulent discharge from the left nares of four years' duration. This was frequently accompanied by severe pain over the left side of the head, and was specially marked over the region of the left frontal sinus. The pain was frequently so severe, particularly on stooping at his work, that he was compelled to take "idle days," and at night he occasionally became delirious. This latter symptom was at first supposed to be due to indulgence in alcohol, but on careful observation and enquiry that was found not to be the case.

On examination, there was pus lodged in the left naris, and on this being removed the left middle turbinal was seen to be considerably enlarged, there being hypertrophy of bone as well as of the covering mucosa. The right naris was healthy, and the maxillary sinuses, on trans-illumination, were found equally clear.

Under chloroform the sinus was exposed and freely opened on 24th March, 1898, through a median incision. The cavity, which contained pus, was cleaned out, and the anterior ethmoidal cells were broken down and scraped away, and a free communication between the sinus and nose established. The cavity was packed with cyanide gauze, the end of which was left free in the nostril. The wound healed by first intention, and the packing was, at the end of fourteen days, removed through the nose.

Pain was absent almost from the hour of operation, and since operation there has been no return of pain, and absolutely no purulent discharge.

The line of incision is almost imperceptible, there is absolutely no pain, and he has been at work regularly since he returned home from hospital.

Case II.—Mrs. D., aged 34, was admitted to the Western Infirmary on 26th November, 1898. She stated that in

January, 1897, she first experienced discomfort, occasionally amounting to pain, over the right supra-orbital region; and coincident with this she observed an increase in the discharge from the right nostril as compared with the left. Later the supra-orbital region began to swell, and in August the swelling burst. The resulting opening healed, but the part remained swollen, and in November of the same year her family attendant incised the swelling. Pain had never been severe, but she frequently had headaches accompanied by giddiness.

On admission to hospital she was thin and anæmic. There was a considerable swelling over the region of the right frontal sinus, pale, smooth, and rounded, and the right eye was pushed downwards and outwards (see Fig. 1, p. 344). There was a copious discharge of very foul-smelling pus from the right naris. After the interior of the nose had been thoroughly cleansed it was examined, and found, apart from a general injection of the lining mucous membrane, to be healthy, there being no enlargement of the middle turbinated bone, and no evidence of intranasal necroses.

Two days after admission I made an incision in a line with the right supraciliary ridge, and with mallet, chisel, and gouge removed the whole anterior wall of the right frontal sinus, which was extensively necrosed. The cavity was full of very foul-smelling pus. When the cavity had been washed out, it was found that the dividing septum had been destroyed, and that both sinuses formed one common cavity. The communication with the nose was made thoroughly free. No ethmoidal disease was found. The sinus was then packed with cyanide gauze, and the free end passed through a counter-opening near to the inner canthus of the eye, after which the incision was closed throughout its length. Half of the packing was removed at the end of ten days, when the wound was found to be completely healed, and all stitches were removed. The remaining portion of the packing was withdrawn four days later, after which an external dressing alone was applied, and the patient left the hospital on 17th December with wound and counter-opening completely healed.

To-night the wound is seen to be firmly healed, the incision is hid by the eyebrow, there is no pain, no odour, and no pus.

Case III.—Thomas G., a clerk, aged 26. Some time in 1896 he became conscious of an irritation within the left naris, the result, he supposed, of a cold in the head. This irritation, however, did not pass away, but rather increased and was accompanied by a disagreeable odour preceptible to himself alone. At this time pus began to make its appearance in the left naris, being discharged intermittently, or when he bent his head forward. Frontal pain was only felt occasionally, was never severe, and was not increased by pressure over the orbital plate.

On examination, several mucous polypi, springing from the left middle turbinal and almost completely filling the middle meatus, were seen along with a quantity of fluid pus.

In February, 1898, when first I saw him, and on several occasions subsequent to that date, I removed those mucous polypi along with the anterior third of the middle turbinal, and, at a later stage, some necrosed cells at a higher level (fronto-ethmoidal) were scraped away.

Intranasal irritation, discharge of pus, and odour persisted, so I recommended him to seek admission to hospital, where, on 24th June, 1898, I explored, under chloroform, the frontal sinus through a median incision. The sinus, when opened, contained pus, and the orbital plate close to the middle line was found to be necrosed. The cavity was cleaned out, the necrosed bone removed, and the passage to the nose was widened by curetting. The cavity was packed with gauze, the free end being passed into the nose, and the external wound was stitched throughout its length.

On 9th July the wound was firmly healed, and the gauze packing was removed through the nose. The discharge was of a mucous character and devoid of pus, and the patient could not detect any disagreeable odour.

There is now (March 1899) no purulent discharge from nares, but in certain positions of the head he is conscious of a musty odour in the left naris, and occasionally there is a small quantity of muco-pus passing to the pharynx, apparently from the posterior ethmoidal cells.

CASE IV.—Catherine M., aged 22, was first seen on 15th November, 1898. She complained of discharge from the left side of the nose, accompanied by a bad smell, for fully ten months, which followed a severe cold in the head. She has had severe frontal headaches during those ten months, varying in intensity. She said that towards the end of each week the pain over the left eye gradually increased in severity, and that by Friday, and occasionally on the following day, it became intense; when, on the appearance of a free discharge of pus, the pain almost entirely disappeared. She had observed that when headache was severe there was little or no discharge, and that when discharge made its appearance the pain subsided.

On examination, the left middle turbinal bone was œdematous and bathed in pus.

The middle turbinal was operated upon as in the other cases, and on 14th January, 1899, she was admitted to hospital.

Under chloroform, the sinus was opened by an incision over the supra-orbital ridge. There was no pus lodged in the sinus, but the lower aspect of the inner bony wall was exposed and the affected bone surrounded by granulations. These were scraped away, and a free communication with the nose established. The cavity was packed with cyanide gauze, the free end of which was passed through a counter-opening, made a quarter of an inch above the inner canthus, and the wound stitched throughout. The packing was withdrawn through the counter-opening at the end of fourteen days.

There is now no discharge, no odour, and no pain, and the scar is entirely hid by the eyebrow.

CASE V.—Jessie M., aged 22, was first seen in September, 1896, when she complained of severe frontal headache, most marked over the left frontal sinus, with copious purulent discharge from the left naris. Nasal respiration was impaired, and there was frequent complete obstruction of the left naris.

The left naris was found, on examination, to contain several large mucous polypi, and these were bathed in fluid pus. Early in October the polypi were removed with cold-wire snare, and the surfaces freely cauterised at a later date. Although nasal respiration was thus rendered quite free, frontal headache and purulent discharge continued, and she was advised to become an in-patient of the hospital. To this she did not consent till June, and on 22nd of that month (1897) the left frontal sinus was opened through the supra-orbital incision in the manner already described. The sinus was found to be completely filled with polypoid tissue (œdematous granulations), associated with extensive necrosis of the bony walls. The granulations were scraped away, and, as far as possible, the necrosed bone was removed. A drainage-tube was inserted, to drain the cavity, into the left naris, the cavity packed with cyanide gauze, and the wound closed throughout. Ten days after operation she was made an out-patient, and at the end of two weeks the tube and packing were removed. She then felt well, and free from headache.

Four months later she was readmitted to hospital on account of recurrence of headache and suppurative discharge. On

22nd October the wound over the left superciliary region was reopened; the remaining sinus cavity was found to be again filled with polypoid tissue and pus. This was again scraped away, and chromic acid was applied freely over the interior, and the cavity firmly packed with cyanide gauze, the free end being brought out through an opening immediately above the inner canthus. The patient was put on iodide of potassium and iron. The wound healed quickly and satisfactorily, and patient was dismissed within three weeks of date of operation, practically well. She was absent from Glasgow for many months, and on her return early this year she again came to the infirmary with a small fistulous opening over the upper and outer extremity of the left nasal bone. This led down to a small area of necrosed bone, which, on 12th February, was exposed and removed under chloroform. Now the parts are healed, there is no pain complained of, and the nares are free from purulent discharge.

NOTES ON THE LYMPHATIC CONSTITUTION.

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IN publishing these notes I desire to draw attention to a condition which, so far as I am aware, has received practically no attention in this country; yet, if the contention of the original observers be correct, it is one which deserves to be generally recognised as being associated with great danger to life from apparently slight causes.

I may, perhaps, in the first instance, give a brief historical survey of the points which have been raised in the attempts to establish the recognition of this state. The old writers appear to have believed in the existence of a condition of so-called "thymic asthma," in which symptoms arose which appear to have been identical with those of laryngismus stridulus; but the idea underlying this state of "thymic asthma" was that sudden death could be produced by compression of the trachea by the thymus gland.

In 1858 Friedleben published a monograph on this subject, and, as the result of his investigations, summed up with this statement—"Neither in its normal nor hypertrophied condition can the thymus cause laryngismus. There is no 'asthma thymicum;'" and since then the question seems to have been ignored or forgotten, until it was raised again by Grawitz, in a paper published in 1888, in which he gives an account of two cases of sudden death which occurred in infancy:—

1. A child, æt. 8 months, was found dead in its cradle. At the official *post-mortem* examination he found no signs of external wounds, but there was "an enormous thymus," "like a flat tumour," reaching over the pericardium and up to the thyroid—its substance beset with hæmorrhages—no foreign body found in the air-passages; and beyond petechiæ on the inner surface of the pleuræ, no other changes were discovered.

2. A child, æt. 6 months, having had no previous illness, died suddenly while in its father's arms. At the *post-mortem* he found no signs of wounds; a rickety rosary was present, and an unusually large thymus, 6 cm. broad by 7·5 cm. long and 1·5 cm. thick, while the total antero-posterior diameter of the thoracic inlet at the manubrium sterni was only 1·8 cm.—the air-passages were free, the lungs collapsed, the spleen large, with very distinct follicles, and the mesenteric glands large. Grawitz believed that in each case death was produced by the pressure of the enlarged thymus gland causing suffocation; and he refers to a statement made by Virchow, in his work on *Geschwülste*, who, after expressing his doubts that the old asthma thymicum was a special diseased state, states that he had in his possession a thymus gland removed from a child, who died suddenly from "asthma," so large that he thought no one could deny the possibility of dyspnœa being produced by its pressure. Up to that time Virchow had only seen one similar case in the course of his experience.

In 1889 a paper was published by Nordmann, in which he reported the death of a young recruit, who died suddenly after bathing; and also recorded three cases, not previously published, which had come under the observation of Recklinghausen. All four patients were adults, who had previously been in good health, and who died suddenly, after going or falling into water. In none of these cases were any of the signs of death by drowning found at the *post-mortem* examination; but in each of the four cases there was a persistent thymus gland, along with great enlargement of all the lymphatic structures throughout the body, viz., at the root of the tongue, tonsils, spleen, mesenteric and bronchial glands. Nordmann attributed the deaths to the pressure of the enlarged thymus on the trachea in all four cases.

It would appear that for some time previous to the publication of these papers of Grawitz and Nordmann, the question of the relation between an enlarged and persistent thymus and cases of sudden death had occurred to A. Paltauf, of Vienna; and, in 1889, he published the results of his observations. In his experience sudden deaths in children, who have been in good health previously, are not altogether uncommon. He states that, during the years 1887 and 1888, he was called upon to examine 225 such cases, and in all of them found recognised pathological changes. But in cases where he found an enlarged thymus gland he was unable to show any compression of the trachea or other thoracic organ; and in some of the cases he found thymus glands larger than those described by Grawitz. He also found that the consistence of these large glands varied very widely in different cases, but he was unable to distinguish microscopically between a hard and a soft thymus. He divides these cases of sudden death with large thymus glands into two classes:—(1) Patients with marked pallor of the skin, all the lymphatic tissues in a state of hyperplasia and an enlarged thymus, along with evidences of rickets; (2) patients who showed no evidence of rickets, but with all the other changes present in an even more marked degree, the lymphatic glands all over the body, the lymph follicles of the tongue, nose, tonsils, and intestines all greatly developed, a large thymus, but no organ showing any characteristic local change. He assumes these to be the signs of a general constitutional condition, for which he proposes the term "status lymphaticus." Moreover, he had found the same state of things in adults. He had met with three cases where an adult, who had previously been in good health, died suddenly, after falling into water; where, on *post-mortem* examination, he had not found any of the signs of death by drowning, but all three bodies presented this hyperplastic state of the lymphatic tissues, along with "persistence" of the thymus. Paltauf had met with two other cases where adults died suddenly, without the complication of falling into water, and in whom no other changes could be found than the over-developed state of the lymphatic tissues and persistence of the thymus glands, and where chemical analysis threw no light on the cause of death. He believes that people the subject of this "state" are liable to sudden inhibition of the heart from slight external stimulation, and considers that the cases reported by Nordmann come into this category.

Since this time many similar cases have been recorded in German literature, although all the reporters are not agreed as to the cause of death, many accepting Paltauf's theory, while others believe the large thymus causes compression of the trachea.

Professor Pott, of Halle, saw, from 1876 to 1891, 176 cases of laryngismus, and of these 8 died suddenly, 4 of them while he was trying to introduce a spatula into the mouth for purposes of examination: they died of cardiac failure. He performed tracheotomy in all of them, and carried out artificial respiration without success. At the *post-mortem* examinations all four cases showed large thymus glands and great development of the lymphatic tissues. Pott accepts Paltauf's theory, that the condition is a general constitutional one.

The question received some additional impetus by the occurrence of the sudden death of the infant son of Professor Langerhans, of Berlin, after the injection of diphtheria antitoxin as a preventive means. At the *post-mortem*, all the signs described by Paltauf were found.

Further, Kundrat published notes of ten cases where death occurred during or immediately after the administration of chloroform. The ages of these patients ranged from 12 to 31 years. All of them died from sudden cardiac failure, and all of them presented the signs of the "lymphatic constitution," and to this their deaths are ascribed.

Gürlt has reported two other fatal cases occuring during anæsthesia in patients who presented the same signs at the *post-mortem.* Escherich reported the case of a child, aged 2 years, who died after the application of a wet pack, and in whom the signs of the "status lymphaticus" were found on *post-mortem* examination. He accepts Paltauf's theory, and suggests that the dyscrasia is due to some abnormal function of the thymus gland, either in the way of an increased or of a diminished secretion.

From these papers which I have quoted it does not appear that the old idea of "asthma thymicum" is altogether disproved; for, although Paltauf was unable to determine any narrowing of the trachea in the cases where he found an enlarged thymus present—and he adopted a special means of examination in order to avoid displacement of the organs concerned—the two cases reported by Grawitz may have been deaths from asphyxia, produced by the pressure of the gland. Indeed, from the measurements he gives in his second case—thickness of the gland being 1·5 cm., and the total antero-posterior diameter of the thoracic inlet 1·8 cm.—it is difficult to see how some compression of the trachea could have been avoided. A sudden congestion of the gland might produce sufficient increase of its diameters to cause compression of the trachea, and, unless hæmorrhage had taken place into its substance, might have passed off, to some extent at least, before the examination could be carried out.

A case has been reported by Benecke where the thymus did produce a marked flattening of the trachea; and a case reported by Siegel is most interesting from this aspect:—A child, æt. 2½ years, with no previous illness, was sent to hospital on account of "laryngismus," and required a tracheotomy. After four weeks the tube was removed, but this was followed by "severe respiratory disturbance," and there being some dulness over the upper part of the sternum, the thymus was exposed, drawn up, and sutured to the fascia of the neck. Respiration was relieved at once, and the child was eventually sent out of hospital cured.

But all the cases cannot be put in this category. There seems to be a class where sudden death has taken place, and where no lesion is found to account for this termination; but in all, there has been a remarkable hyperplasia of the lymphatic apparatus, and in many of them a small heart and aorta have been found.

About a year ago, I believe, I met with a case of this kind, though, unfortunately, I have very little proof to offer in support of my belief. A boy, æt. 13 years, was admitted to my ward in the Royal Infirmary on 22nd December, 1897, on account of pain in the left upper arm. He was poorly developed, and badly nourished; but until six weeks before admission, had not been ill since infancy. The pain in the arm came on for the first time during the night, was very severe, and soon after he had a rigor. When admitted, there were signs which led me to believe he was suffering from a subacute osteomyelitis of the upper part of the left humerus. His axillary glands were slightly enlarged, and the cervical glands were evident, though not enlarged to any very marked degree. For some months previous to this I had been examining all patients for evidence of a thymus gland, but had never been able to obtain any, and here, too, we failed. On 3rd January, 1898, he was anæsthetised with a mixture of alcohol and chloroform. From the time the inhalation began till it ended, twenty-five minutes elapsed, and during this time 14 drs. of the mixture had been used on a flannel mask. The inhalation was stopped a minute or two before the dressings were applied, and just as these were completed he vomited once; a few seconds later, his respiration ceased. Nothing had entered the air-passages apparently, and air entered freely during the artificial respirations that were commenced at once. The heart was beating feebly, but regularly, and the femoral pulse was felt all the time. He got brandy by enema and also hypodermically, as well as ether. After three minutes, spontaneous respiration began again, but after two minutes these stopped, and so did the heart; and, in spite of free stimulation by nitrite of amyl, brandy, and ether, along with artificial respiration, combined with galvanism of the diaphragm, we failed to bring him round. He died from cardiac failure. As I believed the patient was possibly a subject of the "status lymphaticus," I applied for permission to be present at the *post-mortem* examination ordered by the procurator-fiscal, but this was refused, so that I am unable to give a full acount of what was found. I only know that there was a thymus as large as that of a child about 1 year old, and that the heart was an unusually small one. These facts, taken in conjunction with the enlargement of the external lymphatic glands, make me believe that this case comes into Paltauf's category.

I do not consider that we can say at present that the theory of Paltauf is proved. There is, however, a good deal of evidence forthcoming to show that certain patients who die suddenly from apparently slight external causes present, on *post-mortem* examination, no other obvious changes than an over-development of the lymphatic structures throughout the body. But much more observation will be required to determine whether the theory that these facts are intimately related shall be accepted or dismissed. If it is to be accepted, it is a condition of the utmost importance in medico-legal practice; and it is unfortunate that in this part of Great Britain, medical men are prevented from obtaining much information that would often be of the greatest value, owing to the extraordinary policy of "Crown Counsel."

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NERVE SUTURING—TWO CASES.

By DUNCAN MACARTNEY, M.A., M.D.,
Surgeon to the Cancer Hospital; Assistant Surgeon to the Western Infirmary, Glasgow.

1. John M'D., aged 56, boilermaker, was sent to me at the Western Infirmary by Dr. Campbell, of Govan, on 16th August, 1897.

About nine years ago patient received a cut on the anterior aspect of the left wrist with a piece of glass, and after the wound healed he noticed a loss of sensation more or less complete on the palmar surface of the three and half outer fingers of that hand. The slight amount of sensation left began to disappear within the past six months, and he therefore applied to his doctor for advice. There is an oblique scar above the left wrist crossing the line of the median nerve. On the proximal side of the cicatrix a small rounded body is easily felt beneath the skin, evidently the bulbous portion of the divided nerve. On testing his hand by pin-pricks his sensation was found to be very weak, both as to acuity and localisation, over the palmar surface involved,

On 17th August, 1897, I dissected down through the scar, easily finding the bulbous end of the nerve, and after a little patience also the distal end, which was considerably atrophied. Removing the bulbous end, as also the tapering atrophied distal end, I sutured the raw ends carefully together, using for the purpose very fine chromicised gut. The wound was then closed and dressings applied. The arm was put up on a straight splint with wrist and fingers flexed.

22nd August.—Dressings partially renewed to-day; wound aseptic. Patient states that he is conscious of feeling in his fingers.

23rd August.—Dismissed, to return as an out-patient.

Subsequently, I saw him (weeks after), and there was no doubt as to a marked improvement in the acuteness and localisation of his sensations.

2. J. S., marine engineer, aged 27, living in Partick, was brought to me in private, with the history that ten months ago he was wounded in the left arm near the elbow by a piece of glass, owing to the bursting of a steam gauge. The wound was deep and just over the line of the left ulnar nerve; it bled profusely, and took a long time to cicatrise.

From the very time of the accident he was conscious of a nerve-deficiency in his little and half of his ring-finger. When the wound healed and he resumed his work he was at a great disadvantage, for his little finger particularly was always getting in his way. The want of tactile sense in it prevented it, so to speak, looking after itself.

When I saw him, a noticeable feature about the case was the atrophied appearance of the nails on the affected fingers. On testing, there was found the very faintest power of feeling and allocating impressions on the involved one and half fingers.

On 10th January I operated, as in the previous case, in one of the private homes. The nerve was completely divided and a considerable gap between the ends; so much so, that only by complete extension of the arm could the rawed ends be brought into anything like easy contact. Suturing was effected by several fine catgut sutures, one or two at the very ends, the others inserted further and further from the ends, in order to distribute the pressure over as much of the implicated nerve as possible, and so ensure fixity of tenure.

The wound was closed and the arm fixed on a straight splint, reaching from finger tips to the head of the humerus. Within thirty-six hours an improvement was noticeable in his power of sensation, as tested by the pin, which continues.

The wound healed without any trouble, and just a few days ago I allowed him to resume work. The nails are looking much better, the more recent growth being quite normal and healthy-looking, and in marked contrast to the terminal portions, which are shrivelled and hollow.

CASE OF CONGENITAL MALFORMATION OF THE HEART.[1]

By R. BARCLAY NESS, M.A., M.B., C.M.,
Professor of Materia Medica, Anderson's College Medical School;
Dispensary Physician to Western Infirmary and Royal
Hospital for Sick Children, Glasgow.

THE case which I wish to bring before your notice to-night is one of a boy, D. M., aged 5 months, who is affected with congenital disease of the heart. This is not an extremely rare condition, but I think I am correct in saying that during the few years which I have been attending the dispensary of the Sick Children's Hospital, where we see a large number of infants, I could number the cases of this kind on the fingers of one hand, though this is the second within the last month which has come under my notice there.

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[1] Paper descriptive of a case submitted to the Glasgow Pathological and Clinical Society on 10th April, 1899.

This is a typical case and presents many of the usual signs associated with malformations of the heart. The most evident symptom is the general lividity, which is perhaps more apparent during the day than in artificial light, but even now it is quite marked.

The lividity is extremely well seen in the hands and feet, and particularly in the nails, but it is evident that in this case we have not what is so often present in these parts, namely, the enlarged finger ends and the bulbous toes—a condition so common in many forms of disease where the pulmonary circulation is interfered with. This, however, one would not expect in so young a child. The lividity is also extremely well marked in the mucous membrane of the mouth.

I would point out, also, that there is here in the face, mostly about the mouth, a livid papular eruption which is not uncommon in children suffering from cyanosis. It was present in another case of cyanosis, a short description of which I gave before the Medico-Chirurgical Society last winter (*Glasgow Medical Journal*, November, 1898, p. 372). In that case the cyanosis was due not to heart disease, but to chronic pulmonary disease with deformity of the thorax. There the papular eruption to which I refer was well marked; here it is present only to a slight extent.

It was on account of this lividity that the mother brought the child to the Sick Children's Dispensary. She told me that this had been present from birth. When the child was asleep it was not perhaps so marked, but, on the other hand, when the child cried and was distressed, it was more apparent; apart from such slight variations as these, it had remained much the same from the time of birth.

With such a story the natural inference was that there was a congenital cardiac condition present. On examining the heart with the stethoscope there was detected one fact at least in support of this view, and that was the presence of a V.S. murmur, which was heard all over the cardiac area. With regard to the distribution of that murmur, it was very apparent, I think, that it could not be so well heard over the presumed apex of the heart as over the base and down the sternum, including an area large enough to cover the surface of the right ventricle. If one could make any difference with regard to any special area in which it was loudest, I would say that it was best heard in the pulmonic area.

This murmur is the most patent fact detected in the examination of the heart. There is no great heave over the cardiac area, no abnormal pulsation in the epigastrium, and no thrill. Yet there is another fact to which I would draw your attention, and that is that there is enlargement of the cardiac dulness to the right far more than could be accounted for by the more central position of the organ in children. There is no enlargement, I think, to the left. The left border lies within the left nipple line. The transverse measurement is fully 3 inches.

The two facts, then, to bear in mind are the presence of the murmur and the increase in size of the right side of the heart.

The other facts connected with the examination of the child are not so important, but it will be best to consider these now, and thus finish the examination of the child.

And, first, with regard to other congenital defects, the only other one which I could detect is the shape of the palate. It is very deep, much more so than is usually the case in children of this age. I know there is some dispute as to the time when such a defect may become apparent in a child, and that some postpone it to the time of the second dentition. I believe that it occurs at a much earlier date, and that it may be met with in infants. This condition of the palate is not associated with any defect in the senses of sight and hearing. The circumference of the head is 16½ inches.

With regard to the condition of the gastro-intestinal canal, the child has suffered from gastric disturbance and intestinal disorders like many children of its age, but we have here in the probable condition of the mucous membrane of the stomach and bowel—I mean some passive congestion—a circumstance very much calculated to increase such disorders. This largely accounts, I think, for the fretful and restless condition of the child of which the mother has given an account—so different from the lethargic condition very often found in children suffering from congenital heart disease. Convulsions sometimes occur in such cases, but have not been present here.

No definite enlargement of the liver or spleen was found by palpation or percussion. There is some evidence of a general bronchial catarrh. This possibly has to do with the fact that the temperature, when taken on 7th April, was 100° F. *per rectum,* and not subnormal as in many such cases. The surface of the body is always, according to the mother, quite warm.

I would point out, also, before the mother takes the child away, that the child, as far as weight and size are concerned, is well developed. It is not thin and wasted; it has rather an excess of adipose tissue, possibly associated with deficient oxidation processes. The weight of the child is 16 lb., which is more than the usual weight of a child 6 months old. Its length is 25½ inches, which is equal to the average.

Now, gentlemen, I would say a few words on the probable condition of the heart. Personally, I have no doubt about the enlargement of the right side of the heart; that is a condition which must have been caused by undue blood-pressure within the right ventricle in intra-uterine life.

Now, the probable cause of the increased blood-pressure on the right side is obstruction to the outflow of blood through the pulmonary artery. That is one of the most common congenital defects of the heart. The actual form of the obstruction it would be difficult to speak of with any definiteness. The V.S. murmur might be caused by some form of obstruction, but its soft character and its wide distribution suggest that there must be some other source for it than this. But whatever be the cause of the obstruction in the pulmonary artery, this seldom exists to any great extent without there being also present a defect in the inter-ventricular septum. The increase of blood-pressure in the right ventricle during the formation of the septum prevents the septum becoming completely formed. At the same time, if the tricuspid orifice becomes dilated, that becomes another possible cause of the murmur, and with increase of blood-pressure in the right auricle there exists a condition which will prevent the closure of the foramen ovale.

With all these possibilities, there may be more than one source of the murmur. This obstruction to the pulmonary artery, and defect of the inter-ventricular septum, is the most common malformation, and it is the one that we have probably present here—but we cannot dogmatise on the subject.

With regard to the production of the cyanosis, that is usually accounted for by the mixture of the arterial and venous blood within the heart, but this is only a partial explanation. Cyanosis can arise to the same extent from defective aëration of the blood in the lungs where there is no malformation of the heart; and it has been absent in certain malformations of the heart—for example, where there has been only one ventricle. In my case we have the right side of the heart incapable of emptying the venous system. We have a certain amount of stagnation of the blood there, though it has not resulted in sensible enlargement of the liver or œdema of the feet, but such signs are not unknown in such cases. The degree of cyanosis is only really a measure of the non-aëration of the blood.

The prognosis must be unfavourable. Such children seldom live beyond two years. The circulatory organs are defective, and the vitality low. The child is thus handicapped in the struggle with the various diseases to which childhood is heir, particularly with regard to inflammatory conditions of the lungs. The mother has given an account of an illness the child has already had, of a bronchitic or a broncho-pneumonic character. At that time the child was seriously ill for the better part of a fortnight. She believes the child was saved only by the energetic treatment it received in the way of hot poultices, which resulted in the formation of sores, great cicatrices from which are now to be seen on the front and back of the thorax.

This is an only child, and was born when the mother was 30 years of age. No neurotic family history was obtained on the side of either the father or the mother.

CURRENT TOPICS.

British Medical Association: Glasgow and West of Scotland Branch.—The Winter Meeting was held on 24th March in the Victoria Infirmary, when there was a large attendance of members.

The Secretary, Dr. Jas. H. Nicoll, reported a continuance of the recent largely increased growth of the Branch, amounting to a net increase in the membership of over one hundred during the past two years.

The following Office-bearers were elected:—*President*, Dr. Frew (Kilmarnock); *President-Elect*, Dr. D. C. M'Vail; *Vice-Presidents*, Drs. F. Fergus and W. A. M'Lachlan (Dumbarton); *Representatives on Council of British Medical Association*, Drs. Goff and Fergus; *Representative on Parliamentary Bills Committee*, Dr. Goff; *Members of Council*, Drs. W. L. Muir, Sam. Sloan, J. R. Black (Greenock), Eben. Duncan, T. Graham (Paisley), J. Wylie (Kilmarnock), W. Findlay, and James Finlayson, and Sir Wm. T. Gairdner, K.C.B.; *Secretaries*, Drs. Jas. H. Nicoll and T. W. Jenkins.

Drs. Goff and Fergus reported the action of the Council on the amendment of the Local Government (Scotland) Act as affecting the position and interests of the Scottish Poor Law Medical Officers, and on the Midwives Bill. With reference to the latter, Dr. D. C. M'Vail moved (Dr. T. Graham seconding) that—"This meeting is of opinion that the Midwives Bill at present before Parliament would, if passed into law, be injurious to the interests of women who require obstetric assistance, and the Branch wishes to petition the House of Commons against the Bill, and directs the President and Secretaries of the Branch to communicate with the Members of Parliament for Glasgow and the West of Scotland requesting them to oppose, and vote against, the Bill." Dr. Munro Kerr moved as an amendment (Dr. Samuel Sloan seconding), that the consideration of the Bill be remitted to a special meeting of the Branch convened for the purpose. On a vote, the motion was carried by a large majority.

The members of the staff of the Victoria Infirmary treated the members to a clinical demonstration of interesting cases.

In the evening, the Branch dined in the St. Enoch Station Hotel, when Dr. Frew, the President, occupied the chair, and a large company was present.

DR. LOUIS FOUCART, who has just died suddenly at Lucan House, Ripon, at the age of 79, was educated at the University of Glasgow, and graduated Doctor of Medicine and Master of Surgery there in 1848. He became a licentiate of the Royal College of Surgeons of Edinburgh in 1849, and was elected a Fellow of that body in 1875. For some years he was resident physician to the Glasgow Fever Hospital and surgeon to the Royal Infirmary, Glasgow. Subsequently he went to Sydney, New South Wales, where he held the post of Government Medical Officer of Health and Quarantine Officer of Port Jackson. In 1889 he retired, and took up his residence in England. Dr. Foucart, when on a visit to London in June, 1850, happened to be passing at the time of the accident to Sir Robert Peel, and was one of the first to raise him from the ground. He accompanied Sir Robert home, and was in constant attendance until his death, which occurred on the 2nd of the following month.—(*Scotsman*, 31st March, 1899.)

MEETINGS OF SOCIETIES.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1898-99.

MEETING VI.—13TH MARCH, 1899.

The President, DR. W. J. FLEMING, *in the Chair.*

I.—CASE OF ACUTE ENDOCARDITIS.

BY DR. SCOBIE.

Dr. J. M. Cowan (on behalf of Dr. Scobie) showed the affected cardiac valves and splenic abscess from a case of malignant endocarditis. The following notes of the case were read by Dr. Cowan:—

M. C., æt. 22, was admitted into Belvidere Fever Hospital on 22nd February, 1898, certified to be suffering from "typhoid fever."

The history of her illnesses, as given by her friends, was to the effect that she had been quite healthy until November, 1896, when she had an attack of rheumatic fever; that since then she had never been well, having, among other symptoms, attacks of swelling of the feet. In November, 1897, she had had another attack of acute rheumatism, and had never got quite free of it, and she had been much worse since 1st January, 1898.

On 17th February, while sitting on a chair, she had suddenly become aphasic. On 18th February the right arm was found to be palsied, and next day the right leg as well. She was admitted into Ward XI on 22nd February.

At this time she was found to be aphasic, with complete right hemiplegia; the right knee-joint was swollen, and seemed to contain a small quantity of fluid; the finger-joints of the right hand were also swollen, and she disliked any interference with her right side. The heart was much enlarged, and from the physical signs a diagnosis of double aortic disease and mitral regurgitation was made. There was general catarrh of both lungs, with some congestion at the bases, and the spleen was much enlarged. There was incontinence of urine and fæces; the urine contained no albumen. The temperature was febrile, varying between 101·8° and 102·8°.

It was quite evident that she was not suffering from enteric fever, and a diagnosis was made of acute rheumatism, complicated by cardiac disease and an embolus in the left side of the brain.

After admission the temperature steadily fell, touching the normal on 27th February, and her general condition seemed much improved; but on the evening of 3rd March the temperature, which had been practically normal for four days, suddenly rose to 102·4°, the pulse-rate rising from 80 to 120, and she was evidently not so well. On 4th March she seemed to be suffering from pain about her left side, and by 7th March it was quite evident that a splenic embolus had taken place. She was now apparently more comfortable, but was getting very thin and weak, and the cardiac region seemed to be tender on pressure.

The temperature continued to be febrile in a more or less irregular fashion, and at times she became somewhat cyanosed and very restless. Diarrhœa started on 30th March, and continued to the end, but otherwise nothing very noteworthy occurred. The breathing became difficult, and she died on 2nd April.

At the *post-mortem* examination an extensive area of softening was found in the left temporo-sphenoidal lobe, passing some distance upwards in the direction of the ascending limb of the Sylvian fissure, and the first portion of the artery of the Sylvian fissure was found to be occupied by an embolus. The heart was much enlarged, and the pericardium was adherent by loose fibrous tissue. The aortic cusps were represented by large, shaggy, dendritic masses, and the ventricular surface of the anterior mitral cusp was covered by small vegetations.

The lungs were œdematous, while the kidneys each showed several small embolic abscesses.

The spleen was represented by a large abscess, about the size of the head of a full-time child, in the walls of which remnants of splenic tissue were found.

The affected valves and the splenic abscess were shown.

II.—CASE OF MALIGNANT ENDOCARDITIS.

BY DR. SAMSON GEMMELL.

In the absence of Dr. Samson Gemmell, Dr. Cowan read notes of the following case of malignant endocarditis:—

G. H., æt. 47, coachman, admitted 29th August, 1898, complaining of weakness and of being easily tired.

About six weeks ago, during a cold drive, he took a severe shivering. This was so severe that he thought he was going to fall off his box. When he got home he went to bed, but got up again next day and drove his employer to the station. He felt very cold on this occasion, although the weather was comfortably warm. For the next few days he had pains in his bones, and some sickness and slight diarrhœa, but no headache. After about ten days, during which he spent a portion of each day in bed, he improved somewhat, but did not regain his appetite, and felt very weak. For the past four weeks he has been in this condition, and gradually losing strength. He has had little pain until about five days ago, when he complained of somewhat severe pain in his belly, and, although greatly better now, is still present at times. During the whole period of his illness he has never felt properly warm, and he has had a frequent tendency to shiver, and this although the weather was very warm. He has had no vomiting since the first ten days of his illness. For the past two or three weeks he has had diarrhœa, the bowels moving three or four times in the day. The motions, he says, are "watery and light in colour, like pea-soup." During the first week or so of his illness he perspired very freely at night, and would waken up with his clothes simply wringing wet. Latterly this has not been so bad.

Since the onset of his illness his diet has consisted mainly of milk, with, perhaps, half a slice of bread and butter at a meal. The patient's work was very light. He neither smokes nor drinks.

Some three years ago he was laid up in bed with influenza for a fortnight, but apart from this, and occasional bilious attacks, he has always been strong and healthy. He has never had rheumatism. His family history is unimportant.

Patient is moderately well nourished; his face is somewhat pale, but his lips and conjunctivæ are fairly well coloured. His pupils are equal—moderately contracted and active. The tongue is moist and covered with a thin, patchy, dirty-white fur, which is to some extent absent on the anterior parts.

For the last four weeks he has had a slight cough, with, however, no expectoration. It has been somewhat worse during the last few days.

There is very considerable flattening both above and below the left clavicle. Expansion on the two sides seems equal. The lungs are normal to percussion, and on ausculation the R.M. everywhere is good.

The apex beat of the heart is just visible when the patient is lying on his back. It is punctuate, and situated in the fifth intercostal space, just within the vertical nipple line. There is faint pulsation in the fourth interspace. The area of cardiac dulness, bounded above by the lower border of the fourth rib and internally by the left sternal border, measures transversely 3 inches. On auscultation, a long, rough, blowing, systolic murmur is heard at the apex, following the first sound and running close up to a weak and distant second sound. This murmur can be heard with diminished intensity all over the cardiac area. The second sounds at the base are both slightly accentuated.

The pulse-rate—on admission numbering 112—is now 88; the pulse is soft and compressible, with moderately well-marked dicrotism, but quite regular.

The area of dulness in the hepatic region measures 2¼ inches in the middle line, and 4½ inches in the right vertical nipple line.

The splenic dulness measures 4½ inches vertically.

Urine clear, amber coloured, with a deposit of mucus; acid; specific gravity, 1022; no albumen.

The abdomen seems normal, there is no pain or gurgling on pressure; no distension; and no eruption of any kind is found.

31st August.—The bowels were moved by enema to-day, the result being a copious semi-fluid motion; this, though light in colour, has nothing characteristic about it.

1st September.—The serum from a blister was tested to-day by Widal's test, which gave a negative result. Patient still complains of some pain in his right flank, but nothing has been made out on physical examination. There is no albumen in the urine.

3rd September.—The temperature has been very erratic. Between noon and midnight it rose 5·8°, and then fell back to its original position, and this without the patient suffering any serious inconvenience, and apart from the employment of any antipyretics other than the quinine and acid mixture instituted the day after admission. He perspires freely at times, especially during the rapid falls of temperature, but makes little or no complaint.

7th September.—To-day, for the first time, sensible. Sign of pulmonary mischief is got in the left side immediately to the left of the cardiac area, where, with a rather deficient R.M., there is associated, with inspiration, râle of a crackling character—some of it at least conveying the idea of moisture. Over this territory, however, there is no sensible alteration of the percussion sound, nor, indeed, is there any change in this respect anywhere over the lungs; and, notably, in the apical regions there are no signs, percussional or auscultatory, indicative of serious lesion there. The cardiac physical signs remain as on admission, and there have been no evidences of embolic mischief anywhere in the course of the arterial circulation.

16th September.—The patient's temperature has been very erratic recently, varying between 95·6° and 104·8°. During a fall in temperature patient sweats profusely, and complains greatly of heat; when the temperature is lowest he feels cold, and shivers a good deal. He has been losing flesh rapidly, and now looks pale and pinched; his pulse, though somewhat bounding in character, is markedly hyperdicrotous. The lung condition is unchanged. He complains at times of pains in the lower lumbar region, but these are intermittent. He takes his fluid nourishment well. No albuminuria. His bowels require to be moved by enemata.

17th September.—On examination of the chest to-day there is found to be an area of dulness extending from the left border of cardiac dulness round into the axilla. This dulness extends upwards to within an inch of the nipple. "On auscultation, râle, some of it of a distinctly moist character, is heard in deep inspiration. There is also what sounds like fine friction." Dulness in the splenic area to-day measures 6½ inches vertically, an increase of 2 inches since admission.

19th September.—Yesterday patient complained of pain in his left arm close to the shoulder, due, he thought, to a strain while moving in bed. To-day the pain is less acute than it was yesterday. The left radial artery has a very high division, so that the left "pulse" is much smaller than the right. The brachial pulses seem equal.

23rd September.—The dulness and friction at the left base remain unchanged. There is no complaint of pain, little cough, and no spit. "To-day there is noticed for the first time dilatation of the superficial veins of the thoracic wall on the left side, particularly of one vein with its branches running directly upwards in front of the vertical axillary line." The pain in the arm is quite gone.

30th September.—He complains of slight dry cough, especially in the mornings, and his arm is again paining him slightly. The signs at the left base are practically unaltered.

3rd October.—Albumen and blood in considerable quantity were found in the urine to-day for the first time. In the urinary sediment were found uric acid crystals, granular hyaline casts, and some leucocytes, but no red cells. There is little epithelium present.

4th October.—The blood in the urine was to-day notable to the naked eye, and many blood-casts were present in the urine.

10th October.—The spleen was aspirated to-day; the blood removed seemed to contain white cells in excess. He is much weaker, but there is no change in the physical signs.

12th October.—The breathing has gradually become laboured, and difficult, and somewhat rapid, and he died at 6·20 this morning.

The following is the *post-mortem* report:—

Heart.—The pericardial sac, which is free from inflammatory appearances, contains several ounces of clear yellow fluid. The heart is somewhat enlarged, the muscle generally being rather pale. Both the aortic and pulmonary valves are competent. The cavities of the heart are all occupied by tolerably firm dark clots, all of which have the aspects of *post-mortem* coagula.

The mitral valve, especially, is concealed by a mass of dark clots between its cusps. On carefully removing this a gross lesion of the valve is apparent, in the form of polypoid formations, on the auricular aspects of the cusps, especially that of the posterior cusp. These are of yellow-white colour, and of firmer consistence. Their connection with the cusps is a most intimate one, and such as to suggest the existence of new formed connective tissue between the cusps and the polypoid outgrowths. The free surface of these masses is, as a rule, irregular, but not of such a character as to suggest recent loss of tissue, with thrombus deposition. Thus the features are rather those of endocarditis with commencing organisation of the exudation, and unassociated with the accompanying destructive processes seen in ulcerative or malignant endocarditis. Minute masses of thrombi are present on the auricular wall, and are seen between the chordæ tendineæ of the posterior cusp (mitral). A larger, but still small, mass of tissue is present between the main muscular papillaris of the anterior cusp and the ventricular wall. No distinct fatty markings are seen in the cardiac muscle; it is pale generally.

The tricuspid valve admits six fingers. The auricles are free of thrombi. The vegetation examined consists mainly of homogeneous fibrin, with here and there in its substance collections of leucocytes. The surface is irregular, and leucocytes are present here in greater numbers, and, in more than one place, red cells as well (recent clot). The wall of the valve is thickly infiltrated with leucocytes.

Just beneath the superficial layers many large groups of cocci can be seen on staining by Gram-Weigert's method.

Lungs.—The left lung is everywhere adherent, but not tenaciously so; the two pleural layers—which enclose numerous strands of connective tissue enclosing fluid collections—are easily separable by the finger. Both lungs are very œdematous.

Spleen.—The spleen is much enlarged; there is a recent fibrinous deposit over the left upper anterior extremity. This, on section, is found to correspond with a superficially situated area of coagulation necrosis, surrounded by a very evident hyperæmic zone having all the usual appearances of an embolic infarction. The remainder of the splenic tissue is very soft—almost diffluent.

The splenic tissue is almost uniformly infiltrated with red cells, their distribution being strongly suggestive of extravasation into the tissues. The capsule is thickened, and there is a considerable deposit of pigment underneath the part which covers the infarcted area. This latter is not enclosed by connective tissue, but simply pushes aside the splenic tissue. That portion of it which abuts on splenic tissue is almost entirely composed of red blood cells, very evidently extravasated. In this zone there is evidence of the occurrence of free blood pigment, and of its occurrence in pigment-carrying corpuscles not of hæmal origin. There is very little nuclear staining in the centre of the area which intervenes between this zone and the capsule, though, apparently, pervious vessels exist in it. The periphery of the infarct shows sections of several vessels, the adventitia of which has undergone distinct thickening. In one case the lumen of the artery is occupied almost entirely by a channel-tissue, the nuclei of which suggest endothelial activity, the spaces which these enclose being occupied by red blood cells.

Kidneys.—The kidneys are firm in consistence, and the capsules strip easily. The pyramidal portions are rather deeply injected, as compared with the cortical.

In places, especially near the cortex, there are small aggregations of leucocytes, but the cells here all stain well; in the neighbourhood the glomeruli and tubules are sometimes filled with blood, while at other parts granular or epithelial casts are seen.

Liver.—The liver is distinctly enlarged. *Microscopic examination.*—In places in the portal regions there are small areas of necrosis, the cell nuclei not staining, and the cells themselves staining only faintly and being extremely granular—this closely resembling the conditions met with in severe typhoid fever. There is a deposit of granular pigment in the cells around the intra-lobular veins.

The general result of the examination shows slight but well-marked evidences of general blood poisoning, this being best marked in the kidneys. The splenic infarct is evidently not markedly septic. The condition appears thus to have been primarily a toxæmic one in connection with an acute endocarditis, the pyæmic element becoming manifest somewhat later.

Microscopic sections illustrating the conditions above noted were shown.

III.—CASE OF ACUTE INFECTIVE ENDOCARDITIS FOLLOWING PNEUMONIA.

By Dr. James Carslaw.

Dr. Carslaw reported a case of acute infective endocarditis following pneumonia, which had occurred in the Western Infirmary in Sir William T. Gairdner's wards.

The patient was a young man of 31, who, after three days of indisposition, which did not interfere with his attending to his work, was seized by symptoms of acute pulmonary disease. Two days later he was admitted to the Infirmary with the signs and symptoms of apical pneumonia of the right side. His temperature was 103·6°; his pulse, 136; and his respirations, 34. No lesion was discovered in the heart. He had not had rheumatism, but he gave a story of "winter cough," and had had pleurisy of the right side eight years before. His family history was insignificant. The patient was acutely ill, and delirium was considerable; but satisfactory improvement set in, and by the eighth or ninth day of illness the urgency of the symptoms was entirely relieved and the temperature was almost normal. However, this improvement was of short duration, for on the tenth day the temperature began to rise again, there being on the twelfth day a more sudden rise to 102·8°, with the onset of abdominal symptoms, and on the fourteenth day a maximum of 104·4° was reached. There were no new thoracic symptoms, but diarrhœa came on and signs almost like localised peritonitis, the pain being related to some extent to the splenic region. The diarrhœa continued more or less from this time. The temperature remained very unstable, ranging irregularly from 99° to 104·8°. The pulse was rapid and varied with the temperature. The respirations were less unstable, and no evidence of fresh respiratory changes was detected. There were no renal symptoms and no cardiac symptoms, but the day before death a soft V.S. murmur was heard at the apex, the cardiac dulness not being altered. Death occurred almost exactly four weeks after the onset of acute symptoms.

The *post-mortem* examination revealed grey hepatisation of the upper lobe of the right lung. There was ulcerative endocarditis of the mitral valve, implicating both the valve cusps and the chordæ tendineæ. The main papillary muscle of the anterior cusp had ruptured. There was some calcareous deposit in the anterior cusp. Numerous infarctions were found in the spleen and the kidneys. The staphylococcus pyogenes aureus was got in cultures from the right lung, the heart, and the kidneys.

Microscopic specimens were shown to the Society illustrating the lesions in the heart and kidneys.

In discussing the case, Dr. Carslaw referred to the frequency with which infective endocarditis is associated with antecedent pneumonia. In those cases the infective micro-organisms reach the blood from the respiratory passages, the infection of which may be mixed, and the characteristic lesions follow in the heart and elsewhere. The absence of cardiac symptoms was striking, and in all probability the alteration in the cardiac physical signs detected shortly before death was reliable, the endocarditis in this case being as definitely as one could imagine a sequela of a primary pneumonic attack. The presence of sclerotic changes in the mitral valve was also referred to as an important factor in determining the cardiac lesion.

Dr. J. Souttar M'Kendrick spoke of the interest of cases of this kind, and detected in several features a resemblance between them and the case of pyæmia recently brought before the Society by Dr. M'Gregor Robertson and himself. He inquired whether a true case of "primary" (so-called) malignant endocarditis had been reported, and commented on the very slight and often hidden focus which might supply the infective material in such cases.

Dr. Cowan replied that these cases were to be regarded as secondary infections always (as far as the ulcerative valvulitis was concerned), and that in Dr. Gemmell's case very careful search was made at the *post-mortem* examination for a possible primary lesion—including the examination of several of the bones—with negative result.

IV.—THE ACTION OF ARSENIC ON THE BONE-MARROW AND BLOOD.

By Professor Stockman.

Professor Stockman presented an important communication on the action of arsenic on the bone-marrow and blood, as determined by experiment on rabbits. The paper was illustrated by micro-photographs and diagrams. He summarised the changes due to arsenic as consisting in an encroachment on the fat cells of the medulla by greatly dilated capillaries in which the red corpuscular element was very pronounced. Whatever the explanation might be, there was no doubt that in such bone-marrow the formation of red blood corpuscles was greatly increased.

Dr. W. K. Hunter stated that he had examined the bone-marrow in twenty cases of severe anæmia in which arsenic had been given. He agreed in the undoubted diminution of fat cells in the marrow observed. These cases included several in which the anæmia was present as a severe secondary symptom—viz., syphilis, Addison's disease, leukæmia, &c. Dr. Hunter suggested that in such cases the administration of the drug had resulted in increased destruction of the red blood corpuscles—perhaps in the portal circulation—and that the observed changes in the bone-marrow were compensatory in character, and not primarily due to arsenic.

Professor M'Call Anderson spoke of the importance of Professor Stockman's communication, and also of the marked improvement noticeable under arsenic in a case of pernicious anæmia under his care at the time.

Professor Stockman, in reply, said that he would not like to dogmatise at present on the action of arsenic. The changes mentioned as occurring, however, could not be disputed. He added that he found a certain amount of arsenic in connection with the leucocytes in these cases, and suggested that this was perhaps an evidence of the establishment of a degree of tolerance towards the drug.

MEETING VII.—10TH APRIL, 1899.

The Vice-President, DR. BARR, *in the Chair.*

I.—CASE OF RECOVERY FROM A COMPLICATED NEUROTIC DISEASE UNDER TREATMENT BY HYPNOTISM.

BY DR. ALEX. ROBERTSON.

M. S., æt. 24, admitted to Royal Infirmary on 5th January, 1899.

Patient had convulsive attacks between 5 and 10 years of age, but their character or frequency is not known. At about 14 years she became subject to seizures in which she was more or less unconscious. These went on for about three years, and occurred about the menstrual periods. Her father is a nervous man; one brother rheumatic; six brothers well. She has been subject to bronchitic attacks for many years. No rheumatism or chorea in personal history.

About six and a half years ago she had an illness similar to the present one, but much less severe. It lasted about six weeks. She was under treatment in the Western Infirmary.

Four years since she had a second similar attack. In this illness speech and the power of swallowing were absent for nine months. She recovered fully at home.

The present attack set in one year ago. She had been overstrained or too anxious about her work as a shopkeeper. At the commencement of the illness all her fingers suppurated in succession, with one exception. During this time she lost the power of both legs and one arm, also of speech, the sight of one eye, and hearing in the left ear. It should have been stated that the hearing of the right ear was lost at her first illness, six and a half years since, and had not returned when she was admitted. There was a brief recovery of swallowing and speech, but about six weeks before admission they were again lost.

The hearing of the left ear has been preserved. During these six weeks she was fed by the stomach pump by her medical man. She has been much troubled with headaches.

Her sister thinks menstruation has never been quite correct. Patient corroborates this statement; the interval is generally too great. Patient is said to have had attacks of screaming before the loss of speech, but there is a doubt upon this point.

State on admission.—Patient is well-coloured and not much emaciated. Both legs are absolutely paralysed, and she cannot move the toes. There is decided but not complete paralysis of the right arm. All forms of sensibility are entirely absent from the right side (body, arm, and leg), and also from the left leg. Sight, smell, and taste on the right side are in complete abeyance. Colour sense is defective in the left eye. She cannot recognise letters with that eye. She can write well with the left hand. Left knee-jerk in abeyance; right diminished. The electrical condition of the muscles (examined by Dr. G. M'Intyre) is normal to both currents. Vocal cords move freely on deep inspiration.

It should have been noted that there is spasmodic contraction of the flexors of the left hand; the fingers are partially flexed.

She was hypnotised on 15th January for half an hour. On awaking she was able to swallow water, and in the course of the day took two meals. On the 16th she took her breakfast without help. In the course of this day she pronounced a few words in a low tone of voice. Patient recognised the benefit from hypnotism, and desired to have it repeated. This was done on the 19th for an hour and a half. On awaking, sight was restored to the right eye. Colour vision was found to be then nearly, but not quite, normal in both eyes. Her voice had also become stronger, and she now read well.

On the 23rd, after the third hypnotic séance, patient could move the fingers of the right hand and the first and second toes of the left foot.

In all, there were eight séances, and after each of them improvement occurred, though in one or two not at the time but next day. Usually the recovery was in parts to which her mind was specially directed when passing into the hypnotic state. The muscular sense was the first of the forms of sensibility to be restored. After the last séance the recovery of sensation slowly progressed downwards to the toes during about eight days.

On the 18th February it was noted that patient was going up and down stairs, and making herself useful in the ward, though sensation was absent on the right side.

On the 5th March she told the nurse about 8·30 P.M. that she had pain in the right ear, and this was still present on the following morning. On being tested, she heard the tick of a watch close to the ear. Bony conduction was in abeyance.

On 4th March a severe bronchitic attack set in, which continued till about the end of the month. The last hypnotic séance was on the 4th March.

On 4th April it was found that all forms of sensation were restored to the right leg, although tactile sense was rather weak at the points of the toes. On this day there was a recurrence of pain in the right ear, and the hearing was found to be much improved, the tick of a watch being recognised at a distance of 6 inches.

On 9th April she returned to her home, considering herself quite well, with the exception of a little remaining bronchitis.

On 15th April she returned on a visit to the ward, and said she continued quite well, and was going to the country.

Remarks.—It will be observed that our patient's present illness began with suppuration of the fingers in succession, and this suggests that the disorder of her nervous system commenced in the trophic area. It is very interesting to note how long a part of this system—namely, the auditory nerve and centres—may be out of function and yet have its nutrition perfectly maintained. She had been six and a half years absolutely deaf in the right ear, and now her hearing is all but fully restored. The fact of the recovery being associated with pain in the ear is worthy of consideration.

In regard to hypnotism, the agent used in treatment, I am aware that it is looked at with no great favour, and, indeed, rather doubtfully, by a large portion of the profession. I think that the facts relating to it, and its claims to acceptance, should be considered with an open, unprejudiced mind. For myself, I am fully convinced of its value in therapeutics.

In reply to a question by *Dr. H. C. Cameron* as to Dr. Robertson's view of the prognosis in this case, the latter gentleman alluded to two cases that had been under his care with symptoms not unlike those of the patient who had just been exhibited. In both of these insanity occurred, so that the affection appears to be frequently a very wide-spread disorder of the nervous system.

Dr. Workman referred to a case of hysterical aphonia which he had seen treated in Belfast by doses of whisky sufficiently large to produce intoxication. When the patient became drunk by this means she swore, but on recovering her senses she again lost her voice.

Mr. Maylard remarked that the essential element in such treatment as Dr. Robertson had employed appeared to be the making a strong impression on the patient, and he recalled how, a good many years ago, when metal discs were being used as therapeutic agents, he had found discs of turnip, carrot, &c., to answer the purpose equally well.

Dr. Robertson explained shortly how the hypnotic state was induced in this patient. Attended by the resident and the nurse, she sat in a dimly-lighted sideroom. Dr. Robertson held a glittering metallic matchbox at a little distance in front of her eyes, and gently stroked the side of her head, telling her in soothing tones to look steadily at the box, and allow her eyes to close when they became tired. He made the appropriate suggestions to her again and again in a low tone of voice. Though patient had slept well the preceding night, she slept calmly in the hypnotic state, on the first occasion after half an hour, and on later occasions after ten or fifteen minutes. Suggestion was constantly going on, always with reference to the special function involved, as, for instance, swallowing.

Dr. Robertson said he warned the patient to let no one except a medical man hypnotise her, and then only for a very definite reason.

II.—CASE OF CONGENITAL MALFORMATION OF THE HEART.

By Dr. R. Barclay Ness.

Dr. Ness's paper appears as an original article at p. 358.

Dr. Newman said that he had paid some attention to the subject of congenital malformations of the heart when he was pathologist to the Royal Infirmary. Two preparations in the museum of that institution were obtained from adults, with regard to whom there had been no history of cyanosis. In both specimens there was perforation of the septum ventriculorum, without stenosis of the pulmonary artery; so that such a perforation does not necessarily cause cyanosis.[1] In the Hunterian museum, also, there were one or more similar preparations which Dr. Allen Thomson used to show to his class. It was an interesting question whether perforation of the septum ventriculorum was due to stenosis of the pulmonary artery. The blood did not flow in such cases, as was usually supposed, from right to left, but from the powerful left to the less powerful right ventricle.

Dr. Workman described a preparation in the Royal Infirmary museum obtained from a patient who, during life, had been under the care of Dr. Lindsay Steven at the Hospital for Sick Children. In it there was almost complete atresia of the pulmonary artery, the septum was perforate, and the blood had flowed from right to left ventricle; part of the blood had no doubt passed through the ductus arteriosus into the patent portion of the pulmonary artery, and so on to the lungs. It did not matter greatly whether the aorta or the pulmonary artery was imperfectly formed. Blood in either case would pass from the right ventricle into the aorta or pulmonary artery. In the cases at the Royal Infirmary referred to by Dr. Newman, both sides of the heart were well developed, and, accordingly, although the interventricular septum was incomplete, the blood probably did not pass to any great extent from one side of the heart to the other.

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[1] See Dr. Newman's paper on this subject, *Glasgow Medical Journal*, 1884, xxi, p. 81.

III.—CASE OF SUBSEROUS PEDUNCULATED SPINDLE-CELLED SARCOMA OF THE ILEUM, WITH TORSION OF THE PEDICLE.

By Dr. H. C. Cameron.

Dr. Cameron brought forward this specimen as a cause of intestinal obstruction which was new to him. The patient was a man, aged 47, who was admitted to Dr. Cameron's wards in the Western Infirmary on 15th March, with symptoms of intestinal obstruction of one week's duration. The illness began with severe pain in the epigastric region, which came on as the patient was going to bed. His doctor saw him next day, and ordered opium pills internally and poultices locally. The opium gave some relief to the pain. Two days from the onset he took a dose of castor oil, but this was vomited. He continued to vomit at intervals throughout this day (11th March), and towards evening the vomit was bilious. Next day it became stercoraceous, and this feature was retained up to admission.

When Dr. Cameron saw him he appeared to be dying. The pulse was feeble, and the temperature subnormal. He had hiccough, and from time to time belched out of his mouth fluid fæces, exactly such as might have been passed per anum. The one satisfactory feature in the case was the complete absence of distension of the abdomen. As patient, who was still quite sensible, had suffered a good deal of pain in the right side of the abdomen, Dr. Cameron opened the abdomen by an incision at the outer border of the right rectus. He then traced the distended bowel downwards and inwards, and thus came upon a loop of gut which was twisted like a rope, and was, moreover, adherent to a round movable body in the pelvis. This body proved to be a tumour, and when it was lifted up out of the pelvis the loop of bowel could be untwisted. In this process a small rent was made in the gut so that some fæces escaped, but this was easily stopped by pressure forceps. The piece of bowel involved was removed, and the remaining portions united by a Murphy's button. The patient died on the following morning, but if the operation could have been performed within forty-eight hours of the occurrence of the obstruction he might have done well. The part of the ileum concerned was probably not far from the cæcum, and a microscopic investigation made by Dr. A. R. Ferguson showed that the tumour was a spindle-celled sarcoma.

Dr. Newman said it was not very uncommon to meet with a tumour where the mesentery and the bowel meet, but it was extremely rare to find such a tumour opposite the mesentery; and the extreme twisting of the bowel was also a rare occurrence.

Dr. Workman thought that the sections submitted showed the sarcoma to contain both round and spindle cells. He remarked on the occurrence of small subserous sarcomata.

Dr. Cameron said that he had operated on more than one case of sarcoma of the intestine, but not on cases where the sarcoma, as in the present instance, was pedunculated and quite incapable of interfering directly with the lumen of the bowel. The tumour, doubtless, fell by its own weight into the pelvis, and then twisting of the pedicle took place in the same way as the pedicle of an ovarian growth gets twisted. The twist there was remarkably tight.

Mr. Maylard thought that the pedunculated condition here was quite accidental; that the growth began in the muscular coat of the intestine, grew outwards, and gradually became pedunculated; and that probably even yet dissection would reveal its anatomical connection with the muscular coat..

Dr. Newman observed that the pedunculated arrangement was the peculiarity of the growth, since sarcomata ordinarily manifest a strong tendency to infiltrate.

Dr. Rutherfurd having raised the question whether the tumour was not a myoma, the matter was referred to a committee consisting of Dr. Ferguson, Dr. Newman, Dr. Workman, and Dr. Monro, for investigation and report.

IV.—PREPARATIONS FROM A CASE OF CYSTIC TRANSFORMATION OF THE KIDNEYS.

By Dr. Workman.

The patient was a lorryman, aged 24, who was admitted to the Royal Infirmary, under the care of Dr. Adams, as an urgent abdominal case. He was evidently very ill, and was stated to have been ill for eight months, but he had become much worse during the ten days before admission. There was no vomiting, diarrhœa, or headache. Frequent enemata were given, with excellent results, as they gave great relief. The abdomen was greatly distended, and hard masses were felt on either side, but especially on the right. The liver was thought to be much enlarged. The urine was scanty, and contained blood and abundant albumen, but no casts. Patient did well till 1st March, when he became drowsy and had twitchings. Later on he became blind, and the twitchings increased. In spite of active treatment the case ended in convulsions and death about 4·5 A.M. on 2nd March, 1899. The symptoms were typically uræmic.

The *post-mortem* inspection showed very healthy thoracic organs. The stomach was large and distended. The spleen and pancreas appeared very healthy. The liver was a little enlarged, weighing 68 oz., and contained in its substance a number of small clear cysts the size of very small peas; these were scattered throughout all parts of the organ. The kidneys were enormously enlarged, the right weighing 67 oz. and the left 65 oz. They were transformed into masses resembling blocks of pudding-stone made up of pebbles of different sizes and colours. These consisted of enormous numbers of translucent bladders, varying in size from a pin-head to a Tangerine orange. Some of the cysts contained clear fluid, others yellow, brown, or red material; some were filled with jelly; some were caseous, or even calcareous; into some hæmorrhage had evidently taken place.

Sections of the kidney and of the liver were made, and stained in various ways. These showed that in spite of the transformation a large amount of active kidney tissue was still present; they also showed that there was evidently well-marked interstitial nephritis, though this, to judge from the appearance of the sections, was probably secondary, being slight in amount at places where the cyst formation was only commencing. The presence of cysts in the liver pointed to a cause which was not entirely confined to the kidneys.

Dr. Workman proceeded to say that his investigation of the case was not yet concluded. It appeared to have been generally held in the past that cystic transformation of the kidneys leads to destruction of the tubules and Malpighian bodies. But though the naked eye appearances might seem to support this view, the microscope showed the presence of much kidney tissue between the cysts, so that if the great size of the organs were also borne in mind, we could understand how an individual might have this disease for years and yet not suffer from any serious symptoms. The inflammatory condition of the kidneys must be regarded as secondary, at least in point of time; and this theory was strengthened by the facts, first, that cysts were present also in the liver, and, second, that cysts could be seen in the process of formation in parts of the kidney where there was no round-cell infiltration. The nephritis, then, was to be regarded as secondary—possibly even from the etiological point of view—to the cystic transformation, and was perhaps the cause of the fatal uræmia.

Several specimens illustrative of this morbid condition were preserved in the museum of the Royal Infirmary. The most striking specimen of the kind known to Dr. Workman had been obtained from a private case of Dr. Newman's, one of the kidneys in this instance weighing 84 oz.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1898-99.

MEETING VI.—29TH MARCH, 1899.

The President, DR. ALEX. MILLER, *in the Chair.*

I.—A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER OCCURRING DURING THE EIGHTH MONTH OF PREGNANCY, WITH SOME REMARKS ON THE ETIOLOGY OF THE DISEASE.

BY DR. CARSTAIRS DOUGLAS.

Acute yellow atrophy of the liver in genuine form is a disease so uncommon that every case ought to be put on record. Not only is it one of the complications of pregnancy most seldom met with, but it is, under any circumstances, a disease of which one may see an example only once in a dozen years. Some idea of its rarity may be gained when I state that Murchison[1] saw only 1 case out of 25,700 admissions to the London Hospital during a period of nine years, while Osler,[2] of Baltimore, says that in a somewhat varied *post-mortem* and clinical experience no instance has fallen under his observation.

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[1] Murchison, *Diseases of the Liver*, 1885, second edition, p. 293.

[2] Osler, *Principles and Practice of Medicine*, 1898, third edition, p. 551.

The case of which I am going to give you a short account occurred some years ago, but has never been reported in any journal, and I am indebted to your late honorary president, Professor A. R. Simpson, for permission to bring it before you, as it came under my notice when I was his house physician.

The patient, R. B., æt. 35, and a v-para, appeared to take seriously ill first on 16th December, but for ten days previous to that (from about 5th or 6th December) her health had not been good; she was troubled with vomiting, and noticed that her urine was the colour of porter. To the appearance of her motions she did not pay any special regard, and had not observed whether they were blood- or bile-stained, clay-coloured, or otherwise altered, though she did notice that they had an offensive odour.

She was at this time nearly eight months advanced in pregnancy.

About 8th December the skin was observed to show a yellow tinge, but the patient had always had a tendency to biliousness, and apparently paid little heed to this. On the night of Sunday, 14th December, she was very restless in bed, constantly starting up and having to be pushed back again. Next morning, 15th December, her husband had to leave home and go out of town by an early train; his wife spoke to him before his departure, but did not get up. She remained all day in bed in a kind of stupor, which continued through the night and into the following day (16th December). On the afternoon of that day a neighbour, on turning down the bedclothes, found in the bed a dead child, newly born. Her friends now came to hospital to the ward, and on hearing of the case I visited and examined the woman in her own home. Her condition was so grave that I ordered her to be brought up to the infirmary in the ambulance waggon, which was duly accomplished on the afternoon of 17th December.

On admission the patient was comatose and deeply jaundiced; she could not be made to speak, or to give any answer even when spoken to in a loud voice. When subjected to much manipulation she groaned and moved uneasily. There were no signs of paralysis or of convulsions, and the pupils were equal and moderately dilated. The pulse was good, regular, and reasonable in rate, while the temperature was 97° F. The cardiac sounds were somewhat impure, the breathing apparently normal. Scattered here and there over the legs were purplish spots like ecchymoses, the evidence of subcutaneous hæmorrhages. Examination of the liver revealed a distinct diminution of the usual hepatic area of dulness. Liver dulness (relative) could only be made out between the fourth and sixth ribs, and there was no absolute dulness at all. The urine was drawn off; it was the colour of pale porter, and contained neither albumen nor sugar. Chloroform having been administered, I dilated the cervix and thoroughly explored the uterine cavity, which was found to be empty and healthy, placenta and membranes having come away completely. A carbolic intra-uterine douche was given, and a hypodermic injection of ergotine. A sharp purge was ordered, but the bowels did not move till 3 minims of croton oil had been given by the mouth, aided by two glycerine suppositories and a soap and water enema.

The patient lay quiet during the night, save when the bowels were moving; she passed water herself. On the 18th the coma was deeper, and the icterus, seen by day, was intense. The temperature was still 97° F. Examination of the urine obtained this day showed it to be a reddish-yellow fluid, containing neither albumen, sugar, nor blood; it reacted fairly well to Graclin's test for bile. Microscopically, it contained many epithelial cells, chiefly polygonal, and deeply pigmented to a bright brown colour, also a few pus cells and some bacteria. Somewhat imperfect crystals of leucin were obtained, but none of tyrosin. On the afternoon of this day (18th December) it was clear that the patient was worse. At 3·30 P.M. the breathing was rapid (40 per minute), rough, and tubular; the radial pulse was imperceptible, though the apex beat could still be felt. A hypodermic injection of strychnine and ether caused a temporary rally, but the patient continued deeply comatose with rapid breathing and a feeble cardiac beat, and expired at 4·30 P.M., 18th December, on the fourth day after the onset of serious symptoms.

The *post-mortem* examination was performed two days after death; the following is a summary of the leading features of it:—

There was general intense icterus of the skin, the pupils were moderately dilated, and the veins of the legs somewhat enlarged. Striæ gravidarum were present, and the nipples were deeply pigmented. On opening the abdomen the stomach was seen to extend 4½ inches below the ensiform cartilage. The tip of the liver was just visible below the seventh costal cartilage, 1½ inch to the right of the middle line. The liver weighed only 27½ oz. (barely 700 grms.), and was small, tough, and extremely flabby to feel. On section, it was tougher than normal. The atrophy seemed to be rather in thickness than in general surface area. The right lobe showed slight chronic perihepatitis, while the inferior surface of both lobes was light yellow in colour, the superior and posterior aspects showing a darker brown-red colour with a slight yellow mottling. On section, the lobules were small in size, and presented a semi-diffluent appearance, especially in the upper and posterior parts. The liver was markedly non-vascular, and the anterior part was of a canary-yellow colour both in the right and left lobes. Where it was possible to see the peripheral part of the lobules, the centre seemed to be disintegrated and of a dirty red colour. The left kidney weighed 7 oz., and the right 6; both showed marked yellowness (fatty change) in the cortical parenchyma, and engorgement of the vessels. The spleen weighed 4½ oz., and showed numerous pale areas on section; the Malpighian bodies were enlarged. The heart showed no special features except that there was slight thickening of the cusps of the mitral valve. The endocardium was bile-stained, the myocardium pale and somewhat yellow (? fatty). The lungs showed small hæmorrhagic points on the pleura, and the bronchial glands were pigmented and enlarged. Hæmorrhages were also found into the mucous membrane of the stomach. The intestines appeared normal.

This, then, completes my short account of this interesting case, and it will be noted that it presents practically all the features of a typical case of acute yellow atrophy of the liver. It occurred in a pregnant woman, and I need not remind you that fully 60 per cent of the cases of this disease occur in women, and that among these women 40 per cent are pregnant. Even in pregnancy, however, it is rare, and Braun gives 1 to 28,000 as the ratio among pregnant women. The illness began, as it often does, with the symptoms of an ordinary catarrhal jaundice; vomiting followed, with increase of the icterus, and presently the disease entered on its serious and rapidly fatal stage, the patient falling into a coma which never lightened, and showing hæmorrhages under the skin. The urine contained some bile, but it is not necessary that this element be present. The reddish-brown colour was probably due, in part, to urobilin, following perhaps upon marked blood disintegration; I was able to demonstrate a considerable amount of this substance lately in the urine of a patient who presented a very similar clinical history. Leucin and tyrosin in the urine are generally regarded as important points in the diagnosis of acute yellow atrophy. In my case only leucin was found, but genuine cases of the disease may occur where neither of these bodies is present. Hunter,[1] out of 23 recently collected cases, found both absent in 9 (about 40 per cent), and both present only in 10 (43 per cent). On the other hand, they may occur in cirrhosis of the liver, in leukæmia, and in phosphorus poisoning. Röhmann[2] reports a case where neither was present, but where there was great abundance of aromatic oxy-acids, such as hydro-paracumaric acid. Some writers have held that emptying the uterus is a means of cure. P. Müller,[3] however, says that delivery seems to have little effect on the course of the disease, and that the obstetrical treatment is a purely expectant one. In this case the natural emptying of the uterus produced no beneficial effect, and Thomson,[4] of Odessa, in a case recently reported and very similar to this, had a like experience.

Post-mortem, the most striking points are the enormous diminution in size of the liver (from the normal 1,500 grammes to barely 700), and the alteration in its colour and consistency. Part of it was a canary-yellow colour and part of it a dull red. The lobules showed distinct signs of breaking down, as is usually the case. Hæmorrhages into various organs (stomach and pleura) were present, and there were indications of fatty changes in the kidneys and the muscular fibre of the heart.

The etiology of this disease is still obscure. The impression which it makes upon the clinical observer is that we are dealing with a profound toxæmia of a very lethal character. The actual source of this poisoning probably lies in the body itself, that is to say, we are dealing here with an auto-intoxication. The poison which causes the fatal coma, whatever it be, is neither leucin nor tyrosin, for in the first place, as I have pointed out, they may be absent from the urine even in fatal cases, and in the second place, Bouchard[5] has shown that they produce no poisonous effect when administered by the mouth. As Halliburton says,[6] they appear in the urine in but small quantity, and simply indicate the small amount of these bodies which are usually present in the intestine, and which appear in the urine in virtue of having escaped destruction by the disorganised liver. The poisoning is to be referred, in all probability, to a group of substances, some of them possibly deleterious bodies absorbed from the gastro-intestinal canal, some of them the results of ordinary tissue metabolism, and some of them, perhaps, the broken-down and disintegrated liver cells themselves.

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[1] Hunter, Clifford Allbutt's *System of Medicine*, 1897, vol. iv, p. 111.

[2] Röhmann, "Chemische Untersuchung von Harn und Leber bei einem Fall von acuter Leberatrophie," *Berl. klin. Woch.*, 1888, S. 861.

[3] P. Müller, *Handbuch der Geburtshülfe*, 1889, Bd. ii, S. 917.

[4] Thomson, *Centralb. f. Gynæk.*, 1898, No. 45, S. 1229.

[5] Bouchard, *Lectures on Auto-Intoxication*, 1892, p. 119.

[6] Halliburton, *Essentials of Chemical Physiology*, 1899, third edition, p. 108.

I need not, at this time of day, emphasise the important position which the liver holds as a poison-destroying and poison-transforming organ. Interposed between the alimentary canal and the heart, it acts, in virtue of its relation to the portal system, as a filter of a very important kind. That it possesses a "schutzcraft," as the Germans term it, or protective power for the organism, there is abundant evidence to prove. For example, Pick,[1] of Prague, by the injection of dilute sulphuric acid into the bile-ducts of an animal, caused destruction of the liver parenchyma, and the development of a central necrosis which, after the advent of convulsions, terminated in death. Nencki,[2] Pawlow, and others working in St. Petersburg, threw the liver out of the circulation, as it were, by establishing a communication (Eck's fistula) between the vena porta and the inferior vena cava. The results of their investigations showed (to quote their own words, s. 174) that "dogs in which the blood of the alimentary canal goes, as a result of an Eck's fistula, direct into the inferior vena cava without passing through the liver, cannot stand a meat diet without suffering severe disturbances of the nervous system, which often end in death." Roger[3] made a large number of experiments on this subject, and concluded that the liver played an important *rôle* as a protective agent to the organism. He argued that it fulfilled its function in a threefold way:—

1. By accumulating toxic principles, and eventually handing them over, little by little, to the general circulation, or eliminating them in the bile.
2. By transforming various poisons introduced from without or developed within the organism.
3. By diminishing the intensity of intestinal fermentation through the action of the bile.

He experimented with nicotine, atropine, strychnine, veratrine, and other powerful alkaloids, in some cases comparing the effects of injection into an intestinal vein with those produced by introduction into the general circulation, in other cases studying the effect on the lethal dose of removal of the liver, and in others still, injecting the poison at one time alone and at another after maceration with fresh liver-tissue. In general terms, he found that the influence of the liver as a neutraliser and transformer of poisons was very great, and that it could arrest 50 per cent of an alkaloid that had to traverse it.

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[1] Pick, "Versuche über functionelle Ausschaltung der Leber bei Säugethiere," *Arch. f. exper. Path. u. Pharmak.*, 1893, Bd. xxxii, S. 382.

[2] Nencki, &c., "Die Eck'sche Fistel zwischen der unteren Hohlvene und der Pfortader, und ihre Folgen für den Organismus," *Arch. f. exper. Path. u. Pharmak.*, 1893, Bd. xxxii, S. 161.

[3] Roger, *Action du Foie sur les Poisons*, Paris, 1887.

Surmont[1] approached the matter from another point of view by studying the toxicity of the urine in liver disease. He found that it was increased in certain affections of the organ, such as atrophic alcoholic cirrhosis, chronic malaria, tubercle, retention icterus, and cancer.

In phosphorus poisoning, again, we have a toxic body of well-known chemical nature producing a lesion in the liver simulating that of acute yellow atrophy (though the liver is not diminished in size), and leading, like it, to the development of jaundice, hæmorrhages, and coma ending in death.

Lastly, in eclampsia puerperalis, we deal with a disease the outcome apparently of self-poisoning, in the pathology of which insufficient attention is often paid, in my opinion, to the liver changes. The investigations of Schmœl,[2] Klebs, and others have established the fact that the liver is often the seat of pathological changes sufficiently marked to suggest that they have a bearing on the genesis of the disease. In the face of these and other arguments that might be adduced it is easy to understand that, if the functions of the liver be abrogated by such a disease as acute yellow atrophy, the organism runs a grave risk of suffering from self-poisoning of a serious kind. I may sum up this point by quoting from Albu,[3] that "the cause of the coma and other grave symptoms lies in the destruction of the liver cells, with consequent loss of their function, whereby the metabolic processes are all disturbed, while at the same time the products of the destroyed cells enter the blood." The poison, as already mentioned, is probably a complex one, composed, it may be, of such elements as potash salts, amido acids, ammonia compounds, albumoses, peptones, and various more or less complex azotised derivatives of tissue-change. But when we come to ask what is the primary virulent poison which acts as a first cause, and leads to this rapid wasting and disintegration of the liver, we must admit frankly that we do not know.

It does not appear to be, so far as we know yet, of microbic origin: in a few cases micro-organisms have been sought for.

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[1] Surmont, "Recherches sur la toxicité urinaire dans les maladies du foie," *Arch. gén. de Médecine*, 1892, vol. i, pp. 162, 301.

[2] Schmœl, *Pathologisch-anatomische Untersuchungen über Puerperal-eklampsie*, Leipzig, 1893.

[3] Albu, *Ueber die Auto-intoxicationen des Intestinaltractus*, Berlin, 1895.

but usually with negative results. M'Phedran and Macallum,[1] in a carefully investigated case, found no trace of bacteria or micrococci, and Thomson,[2] of Odessa, in his case carefully searched for organisms both in the liver and uterus, but found none. The first mentioned writers incline to the view that the poison is a chemical one, probably an abnormal albumen absorbed from the intestinal canal, and conveyed to the liver by the radicles of the portal vein; while Hunter[3] says we have to do here with a virulent organic poison, probably formed within the intestine, and acting on the liver, kidneys, and blood after absorption.

This is as far as our present knowledge of the subject permits us to go. We may surmise that, under circumstances that are very exceptional (otherwise the disease would be more common), a potent chemical poison is generated in the bowel, is absorbed, and attacks the liver, leading to a rapid wasting and degeneration of that organ; and that, as a result of this, the organism is quickly poisoned by the products of its own metabolism. Or it may possibly happen, though it does not seem so probable, that the primary intestinal poison is itself the cause both of the liver changes and of the central narcosis.

As we note the occurrence of this disease among women, and especially among pregnant women, we are once more reminded of the paramount importance of attending to the action of the kidneys, liver, and bowels in our female patients; and above all things, during the time of utero-gestation, simple as this point is, it cannot be insisted on too emphatically or supervised with too great care, for if auto-intoxication is a veritable cause of disease, neither internal medication nor intestinal antisepsis will combat it half so effectually as will a free and regular action of the ordinary emunctories with which nature has provided us.

II.—ON THE INDUCTION OF PREMATURE LABOUR IN THE GLASGOW MATERNITY HOSPITAL DURING THE PAST THREE YEARS.

By Dr. Malcolm Black.

Dr. Malcolm Black read a paper on the above subject, discussion of which was postponed until a subsequent meeting of the Society.

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[1] M'Phedran and Macallum, "Acute Yellow Atrophy of the Liver," *British Medical Journal*, 1894, vol. i, p. 293.

[2] Thomson, *Centralb. f. Gynæk.*, 1898, No. 45, S. 1229.

[3] Hunter, Clifford Allbutt's *System of Medicine*, 1897, vol. iv, p. 116.

THE FORFARSHIRE MEDICAL ASSOCIATION.

A MEETING of this Society was held on Friday, 7th April, in the University College, Dundee, Dr. M'Gillivray in the chair.

DR. M'GILLIVRAY showed a patient with double upward coloboma, and a patient suffering from well-marked follicular conjunctivitis.

DR. PIRIE showed two Roentgen ray photos. of a compound comminuted fracture of the first phalanx of the right forefinger in a man who refused to allow amputation. The later photo. showed a false metacarpo-phalangeal joint forming, and the patient had now fair movement. Dr. Pirie showed several other Roentgen ray photos. taken by himself.

PROFESSOR KYNOCH showed a papillomatous cyst of the ovary removed by posterior colotomy, and emphasised the ease with which small tumours could be removed by this method.

DR. FOGGIE read notes of a case of acute yellow atrophy occurring in a girl of 14. After a period of indefinite ill-health, gastric catarrh and jaundice had set in, and lasted for fourteen days with occasional hæmatemesis. Marked depression followed, and was succeeded by sudden and rapidly fatal cerebral symptoms, in which an initial delirium had given place to coma and tetanic convulsions. A petechial eruption was present both before and after the onset of the jaundice. No diminution in the liver dulness could be determined. Although a *post-mortem* was not allowed, the diagnosis of acute yellow atrophy seemed warranted. He quoted the view, recently supported by W. Hunter, of the condition being a rare form of malignant jaundice of obscure infective nature due to an organic poison probably found in the intestine and acting on the liver after absorption, and he thought this view would assist in the explanation of the great clinical variation in the reported cases.

Dr. Buist thought the pathological conditions described as characteristic of acute yellow atrophy belonged to the terminal stage of the disease; and acute yellow atrophy, though a rare disease, had, he said, been comparatively frequent in Dundee in recent years.

Professor Kynoch generally concurred in what Dr. Buist had said, and cited a case he had during pregnancy, in which he believed the condition of the intestine *post-mortem* pointed to it as the starting point of a toxæmia.

Dr. Pirie also spoke, and *Dr. Foggie* briefly replied.

Mr. Greig then gave a further communication on "Two Years' Experience in the Surgical Out-patient Room of the Royal Infirmary." He had had 63 cases of malignant and 40 of non-malignant tumours; of the latter, 18 were sebaceous cysts, 11 in males and 7 in females, the average age being 38. Thirteen of these non-malignant tumours were papillomata, 2 of which were in the mouth, 1 in a female aged 80 and another in a child. He discussed the pathology of this condition, and stated that injury by the tooth was usually the primary cause. Other tumours were 4 ranulæ, 3 hæmatomata, 3 implantation cysts, 2 dermoids, fibromata and lipomata, and 3 myxomata. Of the 63 malignant tumours, 2 were carcinomata of the breast, 5 sarcomata, and 33 were epitheliomata. Of these last, the youngest was 36 and the oldest 80 years of age. There had been 15 cases of mammary abscess, 3 of which were in patients not nursing at the time. In the remainder of the cases the abscess occurred while nursing the first child 1 the fourth, 3 while nursing the fifth child. The average age of the children when suppuration occurred was 6½ weeks. The cases of hydrocele numbered 26, 6 of which were infants, in whom he recommended needling, which was making several small punctures rapidly by a needle into the sac. The cases of hernia numbered 100; of these, 88 were inguinal, and 59 of these were between the ages of 1 and 10 years. Mr. Greig's statistics showed the cases of inguinal hernia on the right side to be four times as common as on the left. Of 32 cases in males, 28 of these had phimosis. He recommended circumcision in these cases, but was not prepared to say it was a cause of hernia. Twenty-four cases of erysipelas had attended during those years, 10 of them having it on the face. They were all treated with 1 to 500 of perchloride of mercury in glycerine and 10 per cent to 25 per cent of ichthyol. There were 21 cases of bursitis, 16 of ganglia, and 21 of tenosynovitis.

The *Chairman*, *Professor Kynoch*, *Dr. Halley*, and *Dr. Gray* all spoke on, and referred to the interesting nature of, the paper.

Mr. Greig replied, emphasising his treatment of erysipelas, and free incision and drainage under chloroform as the proper treatment of mammary abscesses.

REVIEWS.

Contributions to Clinical Medicine. By T. M'CALL ANDERSON, M.D. Edited by JAMES HINSHELWOOD, M.A., M.D. Edinburgh and London: Young J. Pentland. 1898.

AN American physician who takes a good deal of interest in this country recently observed to us that the Glasgow medical school does not publish as much as it ought to. It must, however, be laid to Professor M'Call Anderson's credit that he at anyrate has taken a very fair share of the teacher's burden, and we congratulate him that after the experience, as he puts it, of upwards of a quarter of a century as hospital physician and clinical teacher, he continues to give us the results of his observation instead of resting on laurels already won, and leaving it to novices to write their way into fame.

The present work is a well got up volume of more than four hundred pages, and consists of matter which is in part new and in part reprinted from earlier publications of the author. It is divided into six sections, which are respectively headed as follows:—General Diseases; Diseases of the Nervous System; Diseases of the Circulatory System; Diseases of the Respiratory System; Diseases of the Digestive System; and Diseases of the Urinary System. Each of these divisions of the work contains from four to eight chapters. As the title implies, this is not a systematic treatise, but a miscellaneous collection of clinical lectures and essays. Those who have attended Professor Anderson's class or have studied his older writings will find here much that is familiar, as, for instance, his teaching on the subject of syphilis and on the curability of acute phthisis—points on which he has recognised it to be his mission to appeal to the profession for many years past. Similarly, the chapter on the treatment of myxœdema is a paper that was read in 1892, the year after Dr. Murray recommended the administration of thyroid extract; one of the cases reported here was treated without thyroid medication, and, it must be confessed, showed a remarkable degree of improvement. Other cases, though already published, are still recent—*e.g.*, hydroa æstivale with hæmatoporphyrinuria in two brothers.

The author is so well known as a lucid clinical teacher that commendation on that score is not required here. We sometimes think we should like him to venture further outwith his special province, and give us with greater detail his views on the morbid anatomy as well as on the clinical aspects of a case. Students, we feel sure, would appreciate this.

We cannot, of course, accept as an article of our faith everything that is taught in this work. That would scarcely be human, and we freely admit that the inability may be due to a defect in ourselves even more than to any demerit on the part of our author. We cannot but recognise the attractiveness of the writer's style, which makes this work a very readable book, and we congratulate him upon the wide and ably utilised experience upon which it is founded. If students should read this volume, some of them might be misled by the remark on p. 77 about the facial nerve being "implicated after its decussation." As a matter of fact, the facial nerve itself does not decussate to any extent, but the motor path from the cortex to the nucleus of the facial nerve does cross the middle line.

Students and friends of the author will be glad to possess in this convenient form a permanent record of so many interesting cases. The work is provided with an index.

The Retrospect of Medicine. Edited by JAMES BRAITHWAITE, M.D. Lond., assisted by E. F. TREVELYAN, M.D. Lond., B.Sc., M.R.C.P. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1899.

THE one hundred and eighteenth volume of the above work has been received. Although, as usual, small and unassuming, it contains within its covers a very encyclopædia of information concerning the progress made in all branches of medicine and surgery during the past six months. Evidently believing in the coming union of all branches of the Anglo-Saxon race, articles from the pen of Broadbent, Gairdner, Mayo Robson, Woodhead, Eve, Barker, and Walsham appear side by side with those of Osler, Senn, Da Costa, Mundi, Jacobi, Tuttle, Keen, and Hammond. This being the case, it deserves increased recognition by the medical profession generally, not only on this side, but also on the other side of the Atlantic.

Growing Children: Their Clothes and Deformity. By E. NOBLE SMITH. London: Smith, Elder & Co. 1899.

IN this interesting pamphlet, the author calls attention to the frequency of bodily deformity in young people, and to the constancy with which clothes are made so that the space between the axillæ is the same in front as behind, with the result that the arms are forced into a position which leads to roundness of the back and depression of the chest. He rightly emphasises the importance of developing a high chest-capacity, and he strongly recommends the use of the belt rather than of braces to sustain the nether garments. Parents and guardians would do well to look into this little work.

Health Loss and Gain: A Plea for the more Definite and Extended Practice of Preventive Medicine. By M. A. CHREIMAN. London: The Rebman Publishing Co., Limited. 1898.

THE sub-title of this book is the objective point of the author's design, and through a couple of hundred pages he industriously pursues his theme by viewing it from a variety of standpoints. Written evidently by one whose native language is German, we discover many quaintly put, some florid, and many turgid, passages. One cannot fail to be convinced, however, of the stern earnestness of the writer, and to agree on general lines with his conclusions. He discovers the weak parts of our social economy, and agitates for a greater development of the preventive aspect of the art of medicine. The impressions left upon our mind, after carefully reading the book twice through, crystallise out as follows:—That the sole contention of the writer is that prevention is better than cure, from whatever point it may be considered; that the duty of enforcing attention to this devolves upon the members of the medical profession primarily, and upon those of the clerical profession secondarily; that greater attention to preventive medicine by individuals in its personal application would prove a great material economy in life and would produce much less misery and discomfort through illness; that, despite the advancement of preventive medicine, in its collective aspect, and of civilisation, the public has not been emancipated *pari passu* from ignorance of physiological facts, or from superstitious credulity, whether in the form of quackery, faith cures, or of "Christian science," and, as an instance of the former, he cites the case of a lady who asked him how he could possibly expect her to retain the services of a doctor who prescribed for "housemaid's knee" when it was not her housemaid who was suffering, but her cook.

The author himself does not seem to be guileless of fads.

"If," says he, "the members of the profession of medicine did but promote, and practically enforce, the truths connected with our one function, respiration, their work would be a priceless boon; marking, in tens of thousands of cases, veritable transformations—from incapacity to capability, from degeneration to well-being, from promise of death to newness of life." No one will gainsay the advantages of physical culture in this regard, but, we fear, it is not the panacea for all the physical ills of life.

While we believe that it is but too true that the individuals are rare who preserve their health by special attention to preventive measures, we agree with the author that it is the clear duty of the medical profession to point out how this practice on the part of individuals ought to be increased, and that from this, mutual advantage would accrue to both patient and physician. But we fear that, at present, the voice of the author is but the voice of one crying in the wilderness; at the same time, it is refreshing to read the carefully pondered views of one who holds before himself and us a high ideal in the preservation of health and prevention of disease, which, after all, is but the logical issue of all the efforts of medical science. As a last word, it may be truthfully said that, during these latter years, the medical profession has not failed to do something to point the way to the people towards this end.

Dwelling Houses: Their Sanitary Construction and Arrangements. By W. H. CORFIELD, M.A., M.D. Oxon., F.R.C.P. Lond. London: H. K. Lewis. 1898.

THIS little book of a hundred and twenty odd pages embraces the consideration of all the important principles that are involved in the sanitary construction and arrangements of houses. Although it is not intended by the author to deal exhaustively with the subject, no essential points have been overlooked. Beginning by discussing the environment, site, and construction of the house, the author proceeds to deal with the important problems of the ventilating, lighting, and warming of its apartments, its water-supply, the removal of refuse matter, and its drainage. The sanitary fittings, internal and external, receive careful handling, and the merits and demerits of the various house appliances of this kind are discriminately pointed out.

The work, which is freely illustrated, can be thoroughly recommended to all, lay and medical alike, who desire to have a compendious and safe guide to the knowledge of all that is best regarding house construction and home hygiene.

The Anatomy of Labour as Studied in Frozen Sections. By A. H. F. BARBOUR. Second Edition. Edinburgh: W. & A. K. Johnston. 1899.

THERE is no greater authority on the anatomy of labour as studied by frozen sections than Dr. Freeland Barbour. We, therefore, have the very greatest pleasure in welcoming a second edition of this most important work of his on the subject. Dr. Barbour says in the preface that he has but little that is new to tell us, although since the first edition in 1889 twenty-five new sections have been described.

As before, the book is divided into two parts, the first being devoted to the description in greater or less detail of all sections that have been made, the second to the literature on the anatomy of labour.

The volume is a complete treatise on the subject, and it speaks very highly indeed for the care with which the earlier observations were made, when Dr. Barbour can say that "new facts learned simply support and supplement the conclusions already arrived at."

We would recommend the volume to all interested in the subject of midwifery, for, apart altogether from its intrinsic value, which is so great, the reader cannot but be encouraged and stimulated by the careful scientific spirit that is revealed in every page.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

GYNÆCOLOGY AND OBSTETRICS.

BY E. H. LAWRENCE OLIPHANT, M.D.

A Pseudohermaphrodite.—Dr. Neugebauer, of Warsaw, reports the case of a woman with a rudimentary erectile organ implanted on the perineum (*Centr. f. Gynæc.*, 4th February, 1899). Dr. Neugebauer says that he has been collecting cases of hermaphrodism in practice and literature, but has found nothing comparable with the case about to be related. Dr. Neugebauer finds that works on malformations, misdevelopments, and so on, deny the existence of the co-existence of real male and female organs in one individual. For example, Meckel says that where the lower part of the body is double, the genital organs are homosexual, as also that twins in one amnionic sac are of the same sex. The case described, and illustrated by photographs, is that of a Jewess, 27 years of age, who was engaged as a wet nurse a few days after a normal delivery. She was of normal womanly appearance in every way; her genitals were normal with a clitoris, and the usual parts generally were as one would expect to find them a few days after delivery. About 1 cm. below the frenulum labiorum is what looks like a penis, its base of 45 to 52 mm. in the middle line of the perineum. During erection this organ is 50 mm. long, and moves like an erect penis. The glans is sharply marked and is partially covered by the prepuce, which can be drawn back to the corona at the sides. At the end of the glans was a dimple, but no opening. Two corpora cavernosa can be distinctly felt. The organ is as thick as the little finger. Nothing abnormal was found on rectal examination. A vaginal examination was not made on account of the recent delivery, which besides proved that at least uterus and ovaries existed. Dr. Neugebauer calls on zoologists and veterinary surgeons, as well as medical men, to report any similar cases. In this connection the following case is suggestive.

Fœtus in the abdomen of a man.—The *New York Medical Journal* (March, 1899) has a short paragraph mentioning the case of a young man operated on in Paris, and reported to the Academy of Medicine. A dermoid cyst, removed from the abdomen, was found to contain a female fœtus of the size usual at five months. The tumour had started to grow about the time of puberty. The patient died.

Vaginal Extirpation of a Uterus Ruptured during Labour.—Dr. Iwanow, of Kiew, relates a case in which he performed this operation successfully (*Centr. f. Gynæc.*, January, 1899). Dr. Dührssen's proposal to perform this operation met at first with little support, but the good results of vaginal hysterectomy performed for cancer after labour brought the idea again forward. Winter (in 1898) showed, in Berlin, a ruptured uterus removed after labour. Dr. Iwanow brings forward this case to show the easiness of the operation and the safety with which it may be performed. The patient was a iii-para, who was attended in labour by an ignorant midwife. During labour the uterus ruptured, and the patient was sent into hospital in a collapsed condition. The child was hydrocephalic, and was easily removed after perforation of the head. The placenta was found near the diaphragm under the liver. The uterus was split from the cervix upwards to the right side, and was almost torn away from the vagina. The hæmorrhage had ceased, but Dr. Iwanow determined to remove the uterus on account of its probable infection. Several saline injections were given, and the operation, which lasted about half an hour, was accomplished without anæsthetics. The lower part of the abdomen was packed with gauze, first removed on the third day, then daily. Blood and meconium drained away at first; after the eighth day the discharge was purulent. Within a month the patient was discharged well, and she now works as a bottle washer in a brewery. Dr. Iwanow draws attention to the resistance of the pelvic peritoneum to infection as compared with the peritoneum higher, and for this, and for the control of hæmorrhage on drawing down the uterus and ease of drainage, he prefers the vaginal to the abdominal operation.

Inversion of the Uterus Treated by a New Operation.—Dr. Westermark, of Stockholm, contributes an original article to the *Centr. f. Gynæc.*, January, 1899. The operation is explained by the aid of diagrams, which are almost necessary to make the description intelligible. Briefly, the operation consists in making an opening through the posterior vaginal fornix into the peritoneal cavity. The finger, passed into the uterus from above, guides in cutting down from the cervix to the fundus on the posterior aspect of the uterus. The cut edges are carried to the front and there stitched together. The uterus is thus reinverted, but completely retroverted; the retroversion is then reduced through the hole in the posterior fornix.

Therapeutic Notes and Miscellany.—The following are quoted from various sources in recent numbers of the *New York Medical Journal*. Dombrovosky recommends, for fissures of the nipples, painting several times a day with a solution of from 2 to 5 per cent of permanganate of potassium. Dalché uses a 3 per cent solution of lactic acid in glycerine on vaginal tampons for vaginal leucorrhœa. Dr. Polk, as the result of a consideration of ten cases, recommends thyroid medication in the treatment of uterine fibroids; He claims that it controls the menstrual flow, arrests the growth of, and in some cases diminishes the size of, the tumours; it relieves pain and pressure symptoms; and generally improves the nutrition of the patient. Dr. Müller is credited with the following—of tincture of iodine, 15 grains; of alcohol, 30 grains; of this, 5 drops in hot water every half hour for tetanic contraction of the uterus. Dr. Southworth considers the following an infallible remedy for rigid perineum—of chloroform and ether, each two parts; of eau de cologne, one part; to be applied locally.

Intra-uterine Fracture of the Skull.—Dr. Alvarez, of Madrid, publishes a pamphlet in French on this subject (Paris, 1898). He relates the case of a child born easily after a normal and rapid labour, but with a fracture of the skull, covered by a hard clot of relatively old date, over the top of the occipital bone. The clot did not separate for *six months*, and left a large hairless cicatrix. The fracture itself had ossified in less than two months. Dr. Alvarez ascribes the fracture to the child having been suddenly and violently driven against the pelvic walls at the time of a fall sustained by the mother at the beginning of the ninth month of pregnancy. He quotes various authorities in support of his theory. Another case of medico-legal interest is the following.

An unconscious accouchement (quoted from *Medécine Moderne* in the *New York Medical Journal* for November, 1898).—A doctor left his patient in labour in charge of a midwife. On returning, the patient said the pains were strong, though the midwife thought they were not strong enough to justify the anticipation of a quick delivery. On examination, the child was found in the bed; it weighed about 7 lb. The narrative does not state whether the patient was a primipara.

DISEASES OF THE EAR.

By Dr. WALKER DOWNIE.

The Application of Hydrochloric Acid in Affections of the Bony Walls of the Tympanic Cavity and the Meatus. By Dr. O. B. Bull, Christiana.—In a former communication Dr. Bull drew attention to the efficacy of acids in the treatment of necrosis and caries of the temporal bone, and here he supplements that paper by details of cases treated subsequently. He uses chiefly hydrochloric acid in the form of a *4 per cent* solution, though when this causes pain he employs sulphuric acid. The area of the affected bone having been ascertained by the careful use of a probe, a piece of cotton-wool soaked in the acid solution is laid over it, and kept in position for, in some cases, twenty-four hours. This is repeated several times. Where there are granulations, these should be scraped away prior to the application of the acid. According to his experience, the action of the acid is most favourable in those cases in which the tympanic cavity is the seat of the disease, and he recommends it specially for these cases. Good results have also been obtained in necrosis of the meatus where the affected area was small, but where larger areas were necrotic it was found unsuitable; and he also found that the acid was of no service in dealing with disease of the ossicles.—(*Archives of Otology*, February, 1899.)

A Case of Acute Mastoiditis (Bezold's Variety) without Perforation of the Drum-Membrane; Operation; Recovery. By Dr. Arnold H. Knapp.—The case which is here recorded is uncommon in that an acute empyema of the mastoid antrum occurred, while there was little or no apparent involvement of the middle ear.

The patient, aged 21, who had had impairment of the right ear following measles, though there had been no otorrhœa, applied for treatment on account of loss of hearing and tinnitus in left ear. Both membranes were intact and indrawn, but with no evidence of acute inflammation. Six weeks after first examination the patient suddenly experienced severe pain behind left ear, and this area rapidly swelled. Ice was applied, and paracentesis of the membrane was performed. There was no pus in the tympanic cavity. The mastoid operation was then performed, and the whole abscess cavity fully exposed and curetted. The soft parts closed rapidly, and in six weeks the wound was healed, after which it was found that hearing in the left ear was greatly improved.—(*Archives of Otology*, February, 1899.)

A Plea for the more Accurate Definition of Tuning-Forks. By J. O. Green, M.D., Boston.—The results of the examination of a patient's hearing by means of the tuning-fork are, as described by different observers, often difficult to understand or to compare with others. The difficulties arise from the different systems of notation used in different countries. In designating the number of vibrations the semi-vibration (vibration single or V.S.) is used in France, while in England, America, and Germany the full vibration (vibration double or V.D.) is used.

Physicists have already agreed upon the note C, giving 512 double vibrations per second, as the basis of their work, and some makers of forks now stamp each instrument with the number of vibrations; and Dr. Green suggests that, in addition, they should add to the figures denoting the number of vibrations V.S. or V.D., which would then give the full description of the instrument.—(*Archives of Otology*, February, 1899.)

The Phonendoscope as a Test for Simulated Deafness. By John A. Thomson, M.D., Cincinnati.—The patient claimed being totally deaf in one ear as the result of an injury. The tuning-fork was readily heard by bone and air conduction by the left ear, but he denied positively that he could hear any sound from the fork in the right ear.

The tubes of the phonendoscope were placed in the ears, and the transmitter touched gently with the vibrating tuning-fork. The sound was heard distinctly on the left side, but not on the right, according to the patient's statement. The tube leading to the left ear was then detached without the patient's knowledge, and again the fork at a higher pitch was used in the same way, when he again stated that he heard nothing in the right ear, but that he heard, and recognised the difference in pitch, in the left ear!—(*The Laryngoscope*, January, 1899.)

"Abscesses of the Cerebellum from Infection through the Labyrinth" forms the subject of a paper by J. O. Green, M.D., clinical professor of otology in Harvard University. The paper is founded on a study of four cases which were under his observation. Three of these terminated fatally, and the condition of the parts as found *post-mortem* is described. The fourth case made a satisfactory recovery after operation.—(*The American Journal of the Medical Sciences*, April, 1899.)

Books, Pamphlets, &c., Received.

A System of Medicine by Many Writers, edited by Thomas Clifford Allbutt, M.A., M.D., LL.D. Vol. VI: Diseases of the Circulatory System, of Muscles, and of the Nervous System. London: Macmillan & Co., Limited. 1899. (25s. net.)

A Text-Book of Obstetrics, by Barton Cooke Hirst, M.D. With 653 Illustrations. London: The Rebman Publishing Co., Limited. 1899. (28s.)

Burdett's Official Nursing Directory, 1899. London: The Scientific Press, Limited. (5s.)

The Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. 1899 (Seventeenth Year). Bristol: John Wright & Co. (7s. 6d. net.)

The American Year-Book of Medicine and Surgery, being a Yearly Digest of Scientific Progress, edited by George M. Gould, M.D. Illustrated. London: The Rebman Publishing Co., Limited. 1899. (38s.)

Ocular Therapeutics for Physicians and Students, by F. W. Max Ohlemann, M.D.; translated and edited by Charles A. Oliver, A.M., M.D. London: H. Kimpton. 1899. (7s. 6d. net.)

A Practical Handbook on the Muscular Anomalies of the Eye, by Howard F. Hansell, A.M., M.D., and Wendell Reber, M.D. With Illustrations. London: H. Kimpton. 1899. (6s. net.)

On Fractures and Dislocations, by Prof. Dr. H. Helferich. Illustrated with 68 Plates and 126 Figures in the Text, drawn by B. Keilitz. Translated from the Third Edition (1897), with Notes and additional Illustrations, by J. Hutchinson, Jun., F.R.C.S. London: The New Sydenham Society. 1899.

The Hunterian Oration (delivered on Tuesday, 14th February, 1899, at the Royal College of Surgeons of England), by Sir William Mac Cormac, Bart., K.C.V.O. London: Smith, Elder & Co. 1899. (2s. 6d.)

Constipation and its Modern Treatment, by George Herschell, M.D. Lond. London: Henry J. Glaisher. 1899. (2s. 6d. net.)

A Practical Treatise on Fractures and Dislocations, by Louis A. Stimson, B.A., M.D. With 326 Illustrations and 20 Plates in Monotint. London: Henry Kimpton. 1899.

The Practice of Obstetrics, by American Authors; edited by Charles Jewett, M.D. Illustrated with 441 Engravings (34 of which are in Colours) and 22 Coloured Plates. London: Henry Kimpton. 1899.

An American Text-Book of Diseases of the Eye, Ear, Nose, and Throat, edited by G. E. de Schweinitz, A.M., M.D., and B. Alex. Randall, M.A., M.D., Ph.D. Illustrated with 766 Engravings (59 of them in Colours). London: The Rebman Publishing Co., Limited. 1899. (42s.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 22ND APRIL, 1899.

	WEEK ENDING			
	April 1.	April 8.	April 15.	April 22.
Mean temperature, . .	43·8°	46·4°	42·3°	41·6°
Mean range of temperature between day and night, .	9·5°	10·8°	13·1°	16·7°
Number of days on which rain fell, ...	7	6	2	3
Amount of rainfall, . ins.	2·02	1·39	0·32	0·79
Deaths registered, . . .	319	311	259	272
Death-rates, ...	22·6	22·0	18·4	19·3
Zymotic death-rates, . .	3·5	2·0	1·6	2·1
Pulmonary death-rates, .	6·9	7·4	5·6	5·9
DEATHS—				
Under 1 year, ...	72	52	70	55
60 years and upwards, .	59	70	50	47
DEATHS FROM—				
Small-pox, ...	...	...	...	...
Measles, ...	13	9	8	11
Scarlet fever, ...	2	1	3	2
Diphtheria, ...	...	2	2	2
Whooping-cough, . . .	10	6	3	6
Fever, ...	4	...	1	5
Diarrhœa, ...	20	10	6	3
Croup and laryngitis, .	3	1	1	1
Bronchitis, pneumonia, and pleurisy, ...	69	76	66	57
CASES REPORTED—				
Small-pox, ...	...	...	...	...
Diphtheria and membranous croup, ...	6	11	3	9
Erysipelas, ...	27	31	21	27
Scarlet fever, ...	74	66	91	77
Typhus fever, ...	...	1	1	...
Enteric fever, ...	17	24	26	18
Continued fever, . . .	1	...	1	...
Puerperal fever, . . .	4	2	2	3
Measles,*	166	169	237	246

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *26th April, 1899.*

THE

GLASGOW MEDICAL JOURNAL.

No. VI. June, 1899.

ORIGINAL ARTICLES.

LECTURES ON CLINICAL MEDICINE.

DELIVERED IN THE GLASGOW ROYAL INFIRMARY.

By JOHN LINDSAY STEVEN, M.D.,
Physician and Lecturer on Clinical Medicine in the Infirmary.

XI.

ON THREE FATAL CASES OF MITRAL STENOSIS ILLUSTRATING VARIOUS COMPLICATIONS OF THE DISEASE, AND ESPECIALLY ITS RELATION TO THE OCCURRENCE OF PREGNANCY.[1]

In this lecture I propose to consider the clinical histories and *post-mortem* reports of three cases of characteristic mitral stenosis which have recently proved fatal in the wards. You have had frequent opportunities of examining two of the cases during the life-time of the patients, and now that we have all the facts before us, it cannot fail to be of service to you as well as to myself if I pass in review the main clinical and anatomical details, and point out to you the practical lessons which they teach.

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[1] Lecture delivered and specimens demonstrated to the Clinical Class on Friday, 5th May, 1899; specimens shown at a meeting of the Glasgow Pathological and Clinical Society held on 8th May, 1899.

CASE I.—*Mitral stenosis of long standing—Frequent hæmoptyses during pregnancies—Thrombosis of right innominate vein and of uterine veins—Embolism of pulmonary artery—Death sixteen days after miscarriage during sixth pregnancy.*

Mrs. D., æt. 26, admitted for the first time to Ward 8 of the Glasgow Royal Infirmary on 22nd January, 1897, suffering from hæmoptysis.

She had suffered from winter cough for three winters, and on the evening before her admission she awoke, about 11 P.M., with blood welling into her mouth; it was bright red and frothy, in all about a teacupful being evacuated. She was brought to the Infirmary shortly afterwards, where she arrived in a highly excited state, but with the bleeding stopped.

She had suffered from hæmoptysis on two previous occasions —the first, three years before admission, during her third pregnancy, five months before term. The bleeding recurred regularly each month for three or four days till labour took place, when it ceased. The second hæmoptysis occurred two years later under similar circumstances. During these two attacks the amount of blood lost was much greater than during the attack for which she was admitted to the ward.

No history of rheumatic fever, scarlet fever, or severe growing pains could be obtained either in the patient or in her family. She was liable to severe œdema of the lower limbs before her confinements. She was the mother of four children, of whom three were living.

On the occasion of her first admission it was found that the chest presented the emphysematous type of conformation; the respiratory murmur was feeble, and the area of cardiac dulness difficult to delimit with accuracy. The apex beat was in the fifth interspace, 4 inches to 4½ inches to the left of the middle line. In the left-sided decubitus there was a slight presystolic thrill to be felt; and strictly limited to the apex region A.S. and V.S. murmurs could be heard. The pulse was soft and regular in force and rhythm, numbering about 80. The urine contained neither sugar nor albumen. She improved rapidly, and was dismissed feeling quite well on the 12th February, 1897.

She was admitted for the second time toward 8 P.M. on 16th July, 1898. On this occasion she came into hospital on account of pain over the heart, palpitation, troublesome cough, and profuse expectoration, the latter having been specially severe since August, 1897. For three months after leaving the Infirmary the first time she had remained very well. During this period she entered upon her fifth pregnancy, when hæmoptysis again began, lasting always two or three days every month till labour took place, when it ceased in November, 1897. Examination of the heart at this time showed that the apex beat was in the fifth interspace, 4 inches to the left of the middle line. No thrill could be felt. Over the apex region a definite presystolic murmur was heard. No systolic apex murmur could be made out. Pulmonary percussion was everywhere excessively resonant, and there were numerous moist and dry bronchial râles. The urine contained a trace of albumen. She was dismissed very much improved on 2nd September, 1898.

She entered the Infirmary for the third time on 4th April, 1899, complaining of great dyspnœa and cough, with severe œdematous swelling of the right arm.

On 25th March, 1899, she miscarried at the sixth month of her sixth pregnancy. The labour was easy, but was followed in two or three days by profuse hæmorrhage from the vagina. Since then she had become progressively weaker, her cough and spit being very troublesome, and swelling of the lower limbs being more or less constant. From the time of the miscarriage she suffered daily from vaginal hæmorrhage. On 1st April the right hand and arm began to swell. During six months before her third admission there had been no hæmoptysis, but the feet and ankles had been swollen more or less all that time.

When admitted at this time there was great orthopnœa and much cyanosis. Cough was very troublesome, and accompanied by white frothy tenacious expectoration. The whole right arm was highly œdematous, pitting on pressure as high as the shoulder; the skin everywhere presenting a somewhat bluish colour. The apex was in the fifth interspace, 3½ inches to the left of the middle line. A short A.S. murmur was occasionally detected at the apex, with a lack of definiteness in the ending of the first sound. The right border of cardiac dulness was half an inch to the right of the right sternal border. The urine contained much albumen. She was critically ill at the time of admission, and she died on 10th April, 1899.

The following is the report of the *post-mortem* examination by Dr. Charles Workman:—

Summary.—Thrombosis of uterine veins and of right innominate and subclavian veins. Embolism of pulmonary artery. Infarction of lungs. Chronic endocarditis with mitral stenosis.

External appearances.—A well-developed and well-nourished body with great œdema and some discolouration of right arm.

On opening the thorax, the left lung shows considerable old and some fresh adhesions to the chest wall, pericardium, and diaphragm. The right is fairly free.

The pericardium contains about 3 oz. of yellow serum.

The heart is considerably enlarged from dilatation and hypertrophy of the right ventricle. The aortic and pulmonary curtains present fairly healthy characters, but the mitral valve is the seat of a chronic endocarditis which has produced such narrowing of the orifice that it only measures 50 mm. in circumference; curtains are thickened, and coalesce at their borders, producing a conical valve. The tendinous cords are also thickened. The right side of the heart contains a large amount of soft red clot, evidently *post-mortem*.

On following up the superior vena cava to its subdivision, the right innominate vein is found to be plugged by an adherent thrombus. The left innominate, however, appears free. The left ventricle of the heart is if anything rather small. The muscular tissue of heart wall is of good consistence and colour.

On examining the lungs, the right presents fairly healthy characters, except that it is somewhat congested. The left lung shows a large infarction in its lower lobe, the result of a very complete blocking of the pulmonary branch by an embolism which, from its shape and peculiar rolled form, has evidently been pushed into the vessel with considerable force.

The uterus is found to be in a state of subinvolution. Its mucous membrane is thick and hæmorrhagic. The veins on the left side of uterus are found to be plugged with adherent thrombus, while those on the right only contain soft *post-mortem* clot.

The kidneys are considerably congested, and show evidence of interstitial nephritis.

The liver is small, and is in an advanced condition of passive hyperæmia.

The spleen is also congested.

The ovaries are apparently healthy.

CASE II.—*Mitral stenosis of rheumatic origin—Three of six pregnancies after onset of cardiac disease—Infarctions of lungs and kidney—Complete embolic blocking of right middle cerebral artery—Extensive brown softening of brain.*

Mrs. F., aged 38, admitted 11th February, 1899, to Ward 8, complaining of cough and shortness of breath of four months' duration.

The first symptom observed was dyspnœa on exertion, with beating of the heart. Five weeks before admission, cough accompanied by expectoration of tough white mucus set in. Occasionally has had to sit up most of the night on account of dyspnœa. For a month before admission more or less confined to bed.

She had been previously in Ward 8, in October, 1891, suffering from acute rheumatism. At that time the first cardiac sound was noted to be rough, but no murmur could be made out. There was a trace of albumen in the urine. With the exception of occasional rheumatic pains in the elbows, she remained perfectly well after leaving the hospital until four months before her second admission.

Before the rheumatic fever in 1891 she had borne three children at term; since 1891 she had been pregnant three times, the first terminating at term, the last two ending about the third month. The last miscarriage was nine months before admission, and was accompanied by severe uterine hæmorrhage.

On admission there was only moderate orthopnœa, and no dropsy of the lower extremities. There was evidence of considerable enlargement of the right side of the heart in the shape of punctuate epigastric pulsation beneath the left costal margin and displacement of the right cardiac border to 1¼ inch to the right of the middle line. The only murmur detected was a rough A.S. bruit, strictly limited to the apex region and terminating in a well-articulated first sound. The second pulmonic sound was accentuated, but in all the other areæ the cardiac sounds were pure. The physical signs and the clinical history alike indicated an uncomplicated mitral stenosis, with distinct evidence of considerable hypertrophy of the right ventricle. Her expectoration on admission presented a somewhat brown colour owing to admixture with hair-like streaks of blood.

On 25th February, 1899, she suffered from severe pain in the left hypochondriac region, which was regarded as perhaps due to splenic embolism; this was not verified at the *post-mortem* examination. She was dismissed on 17th March, 1899, greatly improved, the apex beat being in the fifth interspace, 3¾ inches from the middle line. Presystolic thrill was very marked. The right cardiac border was 1 inch to the right of the middle line, and in the apex region there was a very pure rough A.S. murmur, terminating in a slapping first sound.

She was readmitted on 28th March suffering severely from hæmorrhoids, the physical characters of the heart being the same as noted during previous residence, particularly as regards the pure and uncomplicated A.S. murmur. She improved somewhat as regards the piles until the 4th April, when about 1 P.M. she felt coldness on the left side of the face, the body, and the left upper and lower extremities. About 10 o'clock in the evening she partially lost the power of the left arm and leg, this being accompanied by coldness and numbness in the affected parts, but without loss of consciousness. In addition to the loss of power there was complete hemianæsthesia and hemianalgesia over the left side, as also derangement of the temperature sense. There was no hemianopsia or other disturbance of vision, the pupils being equal, active, and medium. Hearing was unaffected; the knee-jerks were both exaggerated; there was no ankle clonus; and the plantar reflexes were vigorous, especially on the left side.

On 15th April, 1899, the hemiplegia became much more pronounced, indeed, complete, and it was judged that either a fresh embolism of the right middle cerebral had occurred or that thrombosis had supervened on that which took place on 4th April. The cardiac signs on the 15th were much as at previous note, except that in addition to the A.S. murmur an apex systolic murmur could be heard. On 22nd April it was found necessary to begin feeding her by the stomach-tube, and she died on the 3rd May, 1899, having been practically comatose for two or three days.

The following is the *post-mortem* report by Dr. J. Wainman Findlay:—

Summary.—Acute endocarditis of aortic, tricuspid, and mitral valves (stenosis of mitral valve). Hæmorrhagic infarctions of lungs, nutmeg liver, cirrhotic kidneys, embolism of the right internal carotid, extensive softening of the motor areas.

A considerable quantity of clear straw-coloured fluid is present in a much dilated pericardial sac. The right auricle is very much dilated and thin, and so is the right ventricle. Aortic and pulmonic valves are competent. Mitral valve is stenosed, admitting only one finger. The curtains are covered on their auricular surface with thick vegetations of grey colour. The left heart is small, but the muscle seems fairly normal. The aortic curtains show at their contiguous margins, in the immediate neighbourhood of the corpora Arantii, very small vegetations, and the same in a more extreme condition is seen on the tricuspid curtains on their auricular surfaces. The left pleural cavity contains a small quantity of clear yellow fluid. Scattered through the lungs are five hæmorrhagic infarctions, and emboli can be made out in the branches of pulmonary arteries leading to these areas. Hæmorrhagic infarctions are likewise present in the right lung. Some venous congestion of the lungs is present.

The *liver* is in a marked condition of passive hyperæmia.

The *kidneys* show evidence of cirrhosis. In right there is an old healed infarction. The kidneys are very hard to the feel, and cut harshly. The capsules are removed with difficulty and leave a very granular surface. One cyst is seen, and there is some narrowing of the cortex. The kidneys are very red.

The spleen is distinctly indurated, and of a bright red colour, and is not much enlarged. A small supernumerary spleen present.

Head.—Fluid blood is present in the longitudinal sinus. There is a considerable amount of fluid in the pia arachnoid—in fact, œdema. Numerous opacities and milk-white spots are also present over the vertex.

The right internal carotid artery is occupied by an embolus lodged just at the bifurcation, where the anterior and middle cerebral arteries emerge. A thrombosis completely blocking the vessel extends a considerable distance along the middle cerebral. The whole operculum and island of Reil are much softened, and of a dirty, rusty colour. There is no distension of the ventricles. On the right side, also, there is yellow softening of the corpus striatum and anterior part of internal and external capsules. The same softening, though less in degree, exists in the optic thalamus and posterior part of external capsule. No other lesion in the brain is noted.

CASE III.—*Mitral stenosis of long standing, with extreme orthopnœa during five months of residence in hospital, and terminating in fatal hæmorrhage from the lungs.*

William M'G., æt. 16, labourer, admitted 23rd November, 1898, to Ward 7 complaining of dependent dropsy, breathlessness, and cough.

All his life he had been more breathless than other boys; he never suffered from palpitation or dropsy till his present attack, which took place five weeks ago. For two years he had suffered severely from cough and profuse spit, occasionally tinged with blood. He had also been liable to blueness and coldness of the hands and feet. For three weeks before admission he had been extremely orthopnœic, and this persisted till his death. He never had acute rheumatism or chorea. His father and mother both died of bronchitis, and the patient is an only child. There is no history of dropsy, cardiac disease, or rheumatism in any of his relatives.

On admission the boy was extremely orthopnœic, and his lower limbs were very œdematous. The following is a note of the condition of the heart as determined by careful physical examination shortly after his admission, and it may be here added that during his residence of five months in hospital no material change in it was observed. The right side of the heart was found to be greatly enlarged. The right border of cardiac dulness was situated quite an inch and a half to the right of the middle line, and the total transverse measurement of the cardiac area at the level of the fifth interspace was 6 inches; its upper margin was at the lower edge of the third rib. There was slight precordial bulging of the chest wall, with wide-spread cardiac impulse in this area. The punctuate apex was situated in the fifth intercostal space, 4 inches to the left of the middle line, and was accompanied by a purring tremor, of which the rhythm was rather difficult to determine, sometimes apparently being presystolic, at others systolic. A very loud and long V.S. murmur could be heard both in the mitral and tricuspid areas, perhaps most intense over the latter area, losing in intensity as the stethoscope was carried to the left, and gaining again in intensity when the mitral area was reached. In the third left interspace, close to the sternum, V.S. and V.D. murmurs could be heard. In the aortic area the V.S. murmur could be faintly heard, but no V.D. No normal cardiac sounds could anywhere be made out. The thrill was most distinct in the fifth left interspace, 2½ inches to the left of the middle line. The patient's physiognomy was typically that of advanced mitral disease.

His condition remained much the same till about the end of March, 1899, when he was allowed to get up for a little. About the middle of April he began to expectorate blood very freely, and this continued in spite of all treatment till death took place towards the end of the month. The amount of blood lost was very large, and the immediate cause of death was undoubtedly hæmorrhage.

The following is the *post-mortem* report by Dr. Charles Workman:—

Summary.—Mitral stenosis, chronic endocarditis, tubercular pericarditis, dilatation of right ventricle and auricle with hypertrophy, enlargement of spleen, cirrhosis of liver, red hepatisation of left lung.

External appearances.—A somewhat emaciated body; rigor mortis is present. Pupils equal and somewhat dilated. On opening the thorax the pericardium is found to contain about 3 oz. of somewhat bile-stained fluid. The pericardium over the right auricle is studded with miliary tubercles. The aortic and pulmonary curtains are competent, but, on examination, aortic curtains are seen to be a little thickened from chronic endocarditis, while pulmonary are quite healthy. The mitral orifice is conical in shape, while it is only 35 mm. in circumference. Left ventricle is normal in size, while the right is much dilated and hypertrophied. The tricuspid orifice has a circumference of 150 mm., and this valve appears healthy. Right auricle appears greatly dilated. The coronary arteries present healthy characters, and the muscular tissue of the heart wall, though pale, is of good consistence. The lungs are pale, but fairly voluminous. The left is a little adherent from fresh pleurisy over lower lobe and lower part of upper lobe. In lower and anterior part of upper lobe and neighbouring part of lower lobe there is an area of commencing red hepatisation. One of the lymphatic glands at root of right lung is greatly enlarged, and has undergone complete caseous degeneration.

Abdomen.—The liver is of fair size, and shows very distinct cirrhosis with rounded areas of deep yellow colour resembling the appearances seen in cases of acute yellow atrophy. The gall-bladder is small, but contains fluid bile.

The spleen is somewhat enlarged, very firm in consistence, and studded with white areas which somewhat resemble miliary tubercle.

The stomach is somewhat congested, but otherwise healthy.

The pancreas is of firm consistence, and to naked eye presents healthy characters.

The kidneys appear healthy.

Having thus reviewed the details of the cases at some length, I now propose shortly to direct your attention to some points of general interest which they illustrate.

The first two cases illustrate the influence of mitral stenosis on pregnancy and parturition. To the late Dr. Angus Macdonald, of Edinburgh, we owe a most valuable monograph on the " Bearings of Chronic Disease of the Heart upon Pregnancy, Parturition, and Childbed." I do not propose to ask you to consider Macdonald's comparative results as illustrating the influence of the different forms of heart disease on pregnancy; I shall merely direct your attention to his teachings as to the influence of the lesion we have been considering—mitral stenosis. In summing up his cases of mitral stenosis he writes as follows:—"We have thus nine cases out of the fourteen, or 64·4 per cent, fatal, which indicates a tendency to death in the combination of mitral stenosis with pregnancy, which is surely sufficiently grave, and more especially seeing that there was in none of the cases any purely obstetrical reason, such as pelvic deformity, likely to add additional risk to the delivery.

"Of these fourteen cases three were primipara, . . . and all of these died.

"Four were pregnant for the second time, . . . and of these four two died; two were pregnant for the sixth time, and of these one died.

"The other five were respectively, at the time they were under observation, confined for the third, fourth, seventh, eleventh, and twelfth time; of these, three died."

Our first patient had been six times pregnant. All her pregnancies went to term except the last one, which ended in miscarriage at the sixth month, sixteen days after which she died, the *post-mortem* revealing subinvolution of the uterus and thrombosis of the uterine veins. There can be little doubt, I think, that in this case the mitral disease had existed from childhood, and yet she was naturally delivered five times, and that notwithstanding the fact that she suffered severely from hæmoptysis during her third and fourth pregnancies. This case certainly teaches that safe delivery at term is at least not incompatible with the presence of tolerably severe mitral stenosis. The danger arises when compensation has seriously failed.

Our second patient had also been pregnant six times, and it is of interest in this connection, because we can be almost certain that three of the pregnancies occurred before the lesion of the mitral valve had commenced, and three of them after it had become diseased. Her first three pregnancies were normal in every way. Of the last three, which took place after her rheumatic fever in 1891, the fifth and sixth terminated in abortion about the third month. The last abortion, however, took place nine months before her admission to the infirmary, and for three or four months after it she enjoyed comparatively good health. Macdonald writes, "A very special tendency to abortion or premature labour is clearly demonstrated with all these patients. Very few of them, indeed, are found to carry their children to the full time." The case of Mrs. F. certainly supports this contention, but like that of Mrs. D., it also shows that the occurrence of pregnancy, even with well-marked mitral stenosis, need not lead to a fatal issue. I do not see in Macdonald's summary that he makes any special mention of a tendency to hæmorrhage from the uterus as the result of mitral stenosis, but the clinical histories of both of our cases show that this is a complication to be guarded against. "We see, also," says Macdonald, "that there is no proved instance of death from embolism among the cases." In the case of Mrs. D., however, the extreme pulmonary embolism cannot be excluded as a factor in the causation of the fatal event.

One of the commonest symptoms of mitral stenosis is hæmoptysis, and this is illustrated by all of our three cases. In the first two it was of the ordinary type, and the only point requiring further comment in connection with them is the tendency to periodicity in the case of Mrs. D. In her case the hæmoptysis generally occurred when she was pregnant, and then at monthly intervals, a somewhat curious circumstance. In connection with the third case, the striking feature of the hæmoptysis was its exceedingly profuse character, so profuse, indeed, that we may say it was the immediate cause of the fatal issue. No treatment had any effect upon it, and the lad practically died of hæmorrhage.

Embolism is likewise a very frequent complication of mitral stenosis, and was present in two of our cases, those of Mrs. D. and Mrs. F. In Mrs. D.'s case there was a very large embolic plug in one of the primary branches of the left pulmonary artery. This, however, was not directly connected with the mitral disease, but was rather, I think, the result of the thrombosis of the uterine veins. In Mrs. F.'s case there were also pulmonary embolisms in both lungs, but these were derived from small thrombi in the dilated right ventricle and auricle. In her case, however, the most important embolic process was that which had occurred in the right middle cerebral artery. This, as has been pointed out, had led to very extensive softening of the brain. Such a complication is a frequent one in cases of mitral stenosis, and there was no difficulty as to diagnosis in connection with it. Indeed, in the case of Mrs. F., after her attack of pain in the splenic region on the 25th February, I frequently, in our ward visits, directed your attention to the possibility of embolism taking place. It is almost certain now that this attack of pain was due to one of the pulmonary infarcts, as no evidence of embolism of the spleen was found at the *post-mortem.* You will remember that an infarction was also found in the right kidney, but although we carefully watched the urine for traces of blood, no evidence of its occurrence was obtained during life.

Thrombosis of the innominate and subclavian veins is, in my experience, a much less frequent complication of mitral stenosis. In the case of Mrs. D. it occurred, and led to great œdema of the right arm. In this case there can be little doubt that the recent abortion and loss of blood from the uterus had rendered such an accident as venous thrombosis much more likely to occur; but, strange to say, in the male ward at the same time there was a man suffering from an almost similar condition of œdema of the right arm. We had no opportunity in this case of verifying the diagnosis by *post-mortem* examination, but that it was due to thrombosis was rendered almost certain by our being able to feel that the external jugular vein on the right side was absolutely blocked in almost its whole extent. I do not remember to have seen a similar thrombosis in any former case of stenosis of the mitral orifice.

The auricular-systolic or presystolic murmur in the mitral area is admitted by all, whatever view may be taken as to the mechanism of its production, to be the most usual auscultatory sign of the presence of stenosis of the mitral orifice. It was characteristically present in two of our cases. It is a peculiarity of this murmur, frequently met with, that it may come and go. In our third case no typical A.S. murmur was ever heard, but in the third left interspace a V.D. murmur was frequently noted. I believe with many others that a V.D. murmur, or at least a murmur in the long pause, audible in the mitral or pulmonic area, is a frequent sign of mitral stenosis.

I do not at present intend to discuss the theories that have been advanced to explain the causation of the A.S. murmur, and I content myself by saying that, both on anatomical and clinical grounds, I fully accept the teaching of Sir William Gairdner on the matter.

THE HEART FROM A CASE OF MORBUS CÆRULEUS.[1]

By DAVID GLEN, M.B., C.M.

This heart was obtained from a male child, 5 months old. At birth and during the first two months nothing unusual was remarked as to its appearance or health by the parents. Cyanosis came on and gradually increased during the latter three months, and the child became more and more peevish in temperament, so that when I first saw it about ten days before death the mother's request was for a soporific. Cyanosis was extreme. Temperature was normal, and the pulse regular and frequent. Breathing was frequent, but not markedly laboured. Though of small size there was no emaciation, the limbs being firm, apparently from passive congestion.

On examination of the chest, the area of præcordial dulness was found to extend as far to the right of mid-sternum as to the left. Cardiac pulsations were as easily palpable, and the heart sounds as distinctly audible, in the right as in the left parasternal line; all over the sounds were free from murmur. Anteriorly and posteriorly the rest of the chest gave a clear percussion note. The respiratory murmur was equal on both sides and free from râles. The hepatic dulness was enlarged.

Post-mortem examination.—On opening the pericardium, which was non-adherent, the right upper superficies is seen to be right auricle; this is of about equal size to the exposed ventricular portion.

On removal of the heart the *aorta* is found to be greatly enlarged, having a diameter three times as great as the pulmonary artery. At its origin the aorta lies to the left of, and behind, the pulmonary artery. The valve is competent, and its flaps appear to be of normal structure. The right and left coronary arteries arise from the anterior and the left posterior sinuses of Valsalva; through the latter artery a style has been passed.

The *pulmonary artery*, placed at its origin anteriorly and to the right of the aorta, bifurcates half an inch from its valve into the two branches. The valve is competent, but from the posterior flap a warty vegetation the size of a split pea projects inwards. Both arteries open from a common large ventricular cavity.

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[1] Read at a meeting of the Glasgow Medico-Chirurgical Society held on 17th February, 1899.

In this *ventricle* no vestige of a septum can be traced. The walls are much thickened, but otherwise present healthy appearances. At the base, towards the right, a large auriculo-ventricular orifice is seen communicating with the right auricle. This is curtained by a tricuspid valve, consisting of large equal left and posterior flaps and a small right flap.

The *right auricle* is also greatly enlarged. Superiorly, it receives the superior vena cava, and inferiorly, the inferior cava. The foramen ovale is completely occluded, except for a small opening at the upper left extremity leading obliquely into the left auricle.

The *left auricular cavity* is also of considerable size, and receives the two pulmonary veins. The septum between this cavity and the enlarged ventricle is thickened, and quite imperforate. The only other opening from this sac, as it might be termed, is the communication with the right auricle, an opening which, from its position, direction, and size, would rather favour a flow of blood from right to left auricle than from left to right.

This heart thus presents—(1) A single ventricle, whence blood flows into an aorta and a pulmonary artery; (2) a right auricle in receipt of blood from the systemic veins, and allowing of its flow freely into the ventricle, and also perhaps in limited quantities into the left auricle; and (3) a left auricle communicating with the pulmonary veins and the right auricle. So far as can be judged from the relation of the parts, this latter communication is from right to left.

As only a partial examination was permitted, the other thoracic vessels were not examined. A study of the heart alone makes it extremely difficult, or perhaps impossible, to understand how the circulation was carried on, and sufficient aëration of the blood obtained to allow of life for five months.

Obituary.

JOHN MOIR, M.D.

The death occurred on 14th May, 1899, in Edinburgh, in the 91st year of his age, of Dr. John Moir, the father of the Royal College of Physicians, and one of the most venerable and venerated members of the Free Church of Scotland. John Moir was born in 1808 in a French prison at Verdun. His father, a naval surgeon, had been captured by the French during the great war; but, after a considerable time, discipline was so far relaxed in favour of the prisoner that his wife was permitted to join him. When an exchange of prisoners had been effected, Dr. Moir returned with his wife and child to Scotland, and began to practise in Edinburgh. Choosing his father's profession, John Moir took his M.D. degree at Edinburgh University in 1828, and from that far-distant day almost to the period of his death he was in practice, and for the greater portion of the time held one of the most prominent places among the medical men of the city. The more arduous part of his professional duties had, of course, been long relinquished; but it is significant of his love of his life-work, and the mental and the physical strength he possessed, that until quite recently he kept on a few patients. In his earlier days he became assistant to Professor Hamilton, the predecessor of Sir James Simpson, and he conducted the class of midwifery in the University between the death of Hamilton and the appointment of his successor. Dr. Moir was the father of the Royal College of Physicians, of which body he was president in 1867-68; a leading member and former president of the Obstetrical Society; and once also president of the Medico-Chirurgical Society. Probably his last public appearance was in the summer of 1898, when, at the meeting of the British Medical Association, he made to the obstetrical section a communication which was recognised by authorities as at once interesting and important. It was not long after this event that old age began to make its inexorable demands on one who had lived through so many active years; and for four months preceding his death Dr. Moir was confined to his bed. As might have been expected in the case of one whose philanthropic spirit was equal to his eminent professional gifts, the deceased gentleman was interested in many charitable institutions. Of the Medical Missionary Society, founded by Dr. Abercrombie, he was at one time president; and prior to his death he was the only surviving original member, two of his colleagues at the formation having been Dr. Chalmers and Sheriff Alison, who were appointed vice-presidents of the organisation. In politics Dr. Moir was a somewhat advanced Liberal, while ecclesiastically he was a zealous Free Churchman, and for many years the meetings of the Supreme Court would almost have been regarded as incomplete if Dr. Moir had not appeared to advocate the claims of systematic giving. His views on Christian liberality (a phrase which scarcely met with his approval) were not those of the majority; but the House annually gave a kindly welcome to the doctor's venerable figure—stalwart even in the years of decay—and a patient hearing to expositions a little too exacting for a people emancipated from the law of tithes. Dr. Moir's recollections of the Disruption were vivid and picturesque. He was a witness of the historical scene in St. Andrew's Church, and a participant in the formal severance marked by the procession to Canonmills. Many years prior to that now remote day, when his father was still a prisoner in France, he is said to have seen the great Napoleon, and his reminiscences of a life which covered the closing years of Scott, the era of Parliamentary reform, and the manifold changes of the Victorian epoch, were singularly informative. For more than fifty years Dr. Moir was an elder in Free St. Andrew's congregation, and largely to his efforts was due the transference from the church in George Street to that in Drumsheugh Gardens. His first wife died in early life, and Dr. Moir is survived by a widow and four children. One of his sons, who is well known in Glasgow as the secretary of the African Lakes Company, had, with his brother, much to do with the building of the Stevenson Road, and the opening up of Africa in the region of the Great Lakes.—(*Glasgow Herald.*)

CURRENT TOPICS.

Dr. George R. Mather Memorial: Unveiling of Bust.—On the afternoon of Tuesday, 9th May, 1899, a large company of ladies and gentlemen met in the People's Palace for the purpose of unveiling a bust of the late Dr. George R. Mather, and handing it over to the custody of the Corporation. Among those present were—Mrs. Mather and Mrs. Clark, Colonel Clark, Major F. W. Allan, ex-Deacon-Convener Ramsay, Captain Lightbody, Deacon Jack, Councillors Bilsland and Maxwell, Messrs. Stephen Adam, George A. Scott, R. B. Paterson, C. S. Bathgate, William M'Intosh, James Waddell, Andrew Gillespie, James Hume, &c. Colonel Clark said that some time ago a movement was got up by a few friends to have a memorial of the late Dr. Mather, and if possible such a memorial as could go down to future generations. The subscriptions were limited, so as to give the doctor's many friends an opportunity of showing their esteem. Very soon a sufficient sum was obtained, and it was agreed to have a bronze bust, which, if the Corporation would agree, might be placed in the People's Palace. Dr. Mather was well known in the East End of Glasgow, and esteemed by all. He was looked upon as a prince among men—a man who, while one of the best friends, had a thorough contempt for everything mean. While he could not tolerate meanness, Dr. Mather was in thorough sympathy with every good cause. Had he chosen, he could have aspired to a much higher sphere than he occupied. He was well fitted to adorn any position, but his ambition was to work among those with whom he lived. There was one feature of Dr. Mather's character while it was admirable was also natural. He never turned away a patient because he might not receive a fee. Indeed, the contrary was the case, for many a patient, instead of leaving poorer in purse, went away richer. The bust about to be unveiled, though an admirable likeness, could not show the spirit which burned within the man. He had a sympathetic eye and heart for the poor and the afflicted. At times he was full of humour, such as made the heart glad, while at others his eye glanced with severity when he detected meanness and had to expose it. The effect of that glance was such as almost to melt the dross, and leave nothing but the pure refined metal.

Colonel Clark afterwards referred to the exertions of Dr. Mather in furthering the art section of the East End Exhibition, and the statistics he produced in reference to the brothers Hunter. It was Dr. Mather's desire to have some memorial of these brothers, and it was just possible that his friends might yet do something to carry out the desire of the doctor. Colonel Clark concluded by asking Councillor Bilsland, the convener of the Parks Committee, on behalf of the Corporation, to accept the custody of the bust, and he expressed the pleasure with which the committee had received the intimation that the Corporation had acceeded to their wish to have the bust placed in the People's Palace. The bust was then unveiled, and revealed an admirable likeness of Dr. Mather.

Councillor Bilsland, on behalf of the Corporation, accepted the gift, and assured Colonel Clark and the committee that the Corporation would value it as a memorial of a citizen who had a very deep interest in all matters connected with the East End. Although not personally acquainted with Dr. Mather, he was yet aware of the excellent public work he had rendered to the city in various ways. It was owing to his exertions that the art section of the East End Exhibition had been so attractive; in fact, it was to the efforts of Dr. Mather and the destination of the surplus from that Exhibition that enabled the Corporation to decide on the institution of an art gallery and museum in the People's Palace. It occurred to him that afternoon that to those who visited the rooms the bust of Dr. Mather, together with the portraits of the late Dr. Burns, the late Councillor Waddell, and the late Dean of Guild Reid, would prove a great attraction. He could assure the committee that the bust would be valued by the Corporation, and he trusted that the citizens who visited the Palace would derive pleasure from the contemplation of the bust of Dr. Mather, recalling as it was sure to do the many good deeds that had been so fittingly referred to by Colonel Clark. Mr. Bilsland concluded by moving a vote of thanks to the Committee. Mr. Paterson acknowledged. Mr. Bathgate moved a vote of thanks to the sculptor, Mr. Shannon, who replied. On the motion of ex-Deacon-Convener Ramsay, a vote of thanks was passed to Colonel Clark, and a similar vote was, on the motion of Major F. W. Allan, awarded to Councillor Bilsland. The proceedings then terminated.

HUNTERIAN MUSEUM, UNIVERSITY OF GLASGOW.—We have eat pleasure in intimating, at the request of Professor

Young, that medical men will be admitted to inspect the anatomical and pathological collection of the museum on presentation of their cards. Pending the issue of the new catalogue, a set of proofs has been placed in the museum for the use of visitors.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—At the last meeting of the session, held on 24th May, the following were elected office-bearers of the Society for session 1899-1900:—*Hon. President*, Professor James Stirton; *President*, Dr. Alex. Miller; *Senior Vice-President*, Dr. Robert Jardine; *Junior Vice-President*, Professor John Edgar; *Treasurer*, Dr. John Lindsay; *Secretary*, Dr. A. W. Russell; *Reporting Secretary*, Dr. J. M. Munro Kerr; *Pathologist*, Dr. G. Balfour Marshall; *Members of Council*, Drs. G. W. Thomson, J. Coulson Howie, Marion Gilchrist, Elizabeth Pace, E. A. Gibson, P. M'Bryde.

GLASGOW EASTERN MEDICAL SOCIETY.—At the annual meeting of this Society, held on 18th May, the following office-bearers were elected:—*President*, W. L. Muir, L.R.C.P. & S.G.; *Vice-President*, David Young, L.R.C.P. & S.G.; *Secretary*, John Patrick, M.A., M.B.; *Treasurer*, Robert Wilson, M.D.; *Seal Keeper*, Wm. Park Porter, M.D.; *Reporting Secretary*, J. Wainman Findlay, M.D.

THE LENVAL PRIZE.—This prize, which has been founded by Baron Léon de Lenval, of Nice, will be awarded at the International Otological Congress to be held in London from 8th to 11th August, 1899. The regulations for its award, which were passed at the Fifth International Otological Congress held at Florence in 1895, are as follows, viz.:—(1) In connection with the International Congresses of Otology the sum of 3,000 francs has been given to found a prize, bearing the name of "The Lenval Prize;" (2) the interest of this sum, which has accumulated between one International Congress and the next, shall be awarded to the author of the most marked progress bearing on the practical treatment of affections of hearing during that time, or to the inventor of any new apparatus which is readily portable and improves considerably the hearing-power of deaf persons; (3) the sum of 3,000 francs will be deposited in a public bank in the hands of the president of the jury; (4) the International Otological Congress will elect a jury each time, consisting of seven members. The jury will pronounce its decision at the closing meeting of each Congress. The members of the jury as at present constituted are Prof. Politzer (Vienna), Dr. Benni (Warsaw), Dr. Gellé (Paris), Prof. Pritchard (London), Prof. St. John Roosa (New York), Prof. Kirchner (Würzburg), and Prof. Grazzi (Florence). All persons desirous of competing for the prize are requested to communicate without delay with Mr. Cresswell Baber, Hon. Sec. Gen., 46 Brunswick Square, Brighton, England, stating the facts on which their claim is based.

ERYTHROL TETRANITRATE—CAUTION.—We have received the following note from Colonel Ford, H.M. Chief Inspector of Explosives:—

"An accident, by which a chemist lost his life, happened at a tabloid factory at Dartford on the 15th of December, 1897. He was engaged in mixing tetranitrate of erythrol with finely powdered lactose in a mortar when an explosion occurred.

"Again, at the end of 1898, an accident was caused by tetranitrate of erythrol being inadvertently thrown into a fire, and one person was injured.

"Tetranitrate of erythrol is possessed of explosive properties, and is highly sensitive to percussion, more so, indeed, than dynamite or gun-cotton. As it has lately come into some use in the place of nitro-glycerine as a remedy for angina pectoris, I should be glad if you would draw special attention in your *Journal* to the dangers attending the handling of this drug."

HYDROCHLORIDE OF HEROIN.—The Bayer Co., Limited, which introduced heroin itself last autumn, has now introduced the hydrochloric acid salt, which is soluble in 1·7 parts of water, and gives a neutral reaction, being thus well adapted for subcutaneous injection. The salt also dissolves readily in alcohol. The dose is the same as in the case of heroin—viz., one-twelfth to one-sixth of a grain, beginning, however, with half that quantity. It may be added that hydrochloride of heroin is obtainable in the tablet form from Messrs. Oppenheimer, Son & Co.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Session 1898-99.

Meeting VIII.—3rd February, 1899.

The President, Dr. G. S. Middleton, *in the Chair.*

I.—A CASE OF PSORIASIS RUPIOIDES.

By Professor M'Call Anderson.

Dr. Hinshelwood showed, on behalf of Professor M'Call Anderson, who was unable to be present, a case of psoriasis rupioides. The patient was a schoolgirl, æt. 9 years, who had enjoyed good health until five months ago, when the eruption appeared, first on the legs, and gradually implicated the body and arms. The case was shown as affording an exceptionally typical example of this condition, first described by Professor M'Call Anderson many years ago. In this variety of psoriasis, a great accumulation of epidermis takes place on the diseased areas, so that on many of the patches it assumes the shape of large conical crusts marked by concentric rings, resembling in shape limpet shells, and from their likeness to the crusts of rupia, Professor M'Call Anderson named this variety psoriasis rupioides. In his opinion, however, this condition has no connection whatever with rupia, except in the shape of the crusts.

II.—A CASE OF TABES ASSOCIATED WITH DIABETES.

By Dr. John Love.

Dr. Love showed a case of tabes associated with diabetes. The ataxia had developed with great rapidity. There had been some improvement under Fränkel's method of re-education.

III.—A CASE OF TABES WITH CHARCOT'S JOINT AFFECTION.

By Dr. John Love.

Dr. Love showed a case of tabes in which Charcot's joint affection was very typically present in the left knee, and slightly present in the right. It was not a case for amputation, as there was ataxia in the arms, which would interfere with the use of the crutch. It was a question whether excision was practicable.

Dr. Alex. Robertson had not seen a case where tabes was associated with diabetes. If the association were really pathological, it tended to show that there was a defect in different parts of the nervous system. With regard to the second case, it was impossible to distinguish the joint affection in Charcot's disease from rheumatoid arthritis, except by the association with ataxic symptoms.

Dr. W. K. Hunter asked for an explanation of the physiology of the re-education method.

Dr. Middleton said that the first case was interesting as being a reversal of the ordinary association of diabetes and peripheral neuritis. With regard to the second, he had not seen more than six cases of Charcot's disease at meetings of Glasgow societies. Sir James Paget could not find one case in the bones in the London museums, although there were plenty of rheumatoid arthritis. (Dr. Robertson said that he had referred only to the clinical phenomena.) Even the clinical disorganisation was greater in Charcot's disease.

Dr. Love replied that in trophic joint affections the resemblances to rheumatoid arthritis were only superficial, as there was much destruction as well as hypertrophy of bone. An atrophic form of the affection also existed. He could offer no explanation of Fränkel's method beyond the hypothesis of substitution, or the escape of a sufficient number of fibres to carry on the function.

IV.—A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS.

By Dr. John Love.

Dr. Love showed a case of pseudo-hypertrophic paralysis, or at least of muscular dystrophy, beginning at the age of 14. No other member of the family, and no collateral, was affected. The distribution was similar to that of the pseudo-hypertrophies of Duchenne. The gait was still fairly good, and the patient did not "climb up his legs." This sign was not pathognomonic of pseudo-hypertrophy.

Dr. Alex. Robertson said that the patient was older than usual for the beginning of such a type of disease. "Climbing up the legs" was usual where the disease began in the calves and extended upwards. He agreed in the diagnosis.

Dr. Middleton said that fifteen years ago he had examined several cases pathologically. One of the conditions in the muscles in pseudo-hypertrophic paralysis was a replacement of fibres by coagulation necrosis, which he thought might be the first change, giving place afterwards to fatty change. This might explain the hardness of the muscles in this case. There had not been a sufficient examination of the muscles by harpooning in the early stages. "Climbing up the legs" was present in all the early cases he had seen, but was not pathognomonic. The knee-jerks were well-marked in this case, although they were usually absent, even in the early stages.

Dr. Love said that all rules were liable to exception. One could not be absolute either about the knee-jerks or the method of rising. There were exceptions even in the course of the disease. He had seen a lady of 45 in advanced paralysis, in whom the general health was not much affected.

MEETING IX.—17TH FEBRUARY, 1899.

The President, DR. G. S. MIDDLETON, *in the Chair.*

I.—A SUCCESSFUL CASE OF LAPAROTOMY FOR PERFORATED ENTERIC ULCER, WITH SPECIMENS OF OTHER ENTERIC PERFORATIONS.

BY DR. T. K. DALZIEL.

Dr. Dalziel showed a patient on whom he had successfully operated for perforation of an enteric ulcer in Belvidere Fever Hospital.

The patient, A. E., aged 13 years, was admitted on 19th November, 1898, into Belvidere under the care of Dr. Laird, who reported that she had a history of languor, headache, abdominal pain, diarrhœa, and cough.

On admission, temperature was 103·2°, and patient had the appearance of an enteric case—malar flush; dilated pupils; furred tongue; abdomen distended; slight pain and tenderness in hypogastrium; no gurgling; a pain in right iliac region; no rash; spleen not palpable; complained occasionally of pain in abdomen, but at 6 A.M. on 25th November this became very severe, and temperature rose to 103·6° from normal; pulse, 124; respiration, 60, shallow, rapid, and entirely thoracic. Vomited shortly before 6 A.M. Face pale and anxious looking. Abdomen slightly distended, rigid, and tender all over. Liver dulness normal. Perforation diagnosed, and Dr. Dalziel communicated with. Laparotomy performed at 5 P.M., eleven hours after perforation, and completed at 5·35 P.M.

An incision was made from the umbilicus downwards for a distance of 3 inches. On opening the abdomen a large quantity of turbid fluid escaped, and the peritoneum was found to be in a state of acute inflammation with flakes of lymph on its surface. The perforation was found about 15 inches from the ileo-cæcal valve, and was closed by two rows of fine silk continuous sutures; the peritoneum was freely irrigated with saline solution, and two large rubber drainage-tubes were placed in the pelvis. The tubes were aspirated every half hour by means of a syringe and catheter. During the night patient vomited four times, and complained of severe abdominal pain. On the following day vomited once, had no pain, and expressed herself as feeling much better. Subsequent recovery was continuous and uneventful, and patient was dismissed well on 4th February.

Dr. Dalziel quoted statistics of operations, and suggested that in reasonably early cases it was probable that we might hope to have 25 per cent of recoveries; that 95 per cent of perforations, if left alone, proved fatal. One great difficulty in obtaining cases soon after perforation was the difficulty in diagnosis, as often the more virulent peritoneal injections led to a profound toxæmia, which masked the local signs of early peritonitis. According to Durham, a streptococcus infection was always a severe complication, and of grave prognosis. There was a great difference between the appendix perforations in enteric and those of the ileum—the former being much more favourable, as tending to become limited in their effects by the formation of adhesions due to the fixed condition of the viscus as compared with the movable and moving ileum. Modern surgery recognised the absolute necessity for operation in perforative peritonitis, and enteric cases formed no exception; indeed, in them the necessity seemed even greater, since the patient was little able to withstand the shock of peritonitis. The operative interference was wonderfully well borne by enteric cases. In all cases it was evident that great relief was obtained, and in none could it be said that the fatal issue was hastened.

In all, Dr. Dalziel had operated on eight cases, of which three were moribund and in such a condition that in similar future cases operation would not be proposed. Of the other five, one made an excellent recovery; one lived three and a half days, but, from the extremely acute attack of fever, little hope was ever entertained of recovery; one promised to do well, but died the day after operation from hæmorrhage; while the remaining two were not materially modified in their progress towards death.

Early diagnosis was probably the key to future success, and might be said to depend on sudden abdominal pain, and especially tenderness in the lower part of the abdomen coming on about or in the third week of the fever; vomiting; muscular rigidity; sudden fall in temperature, especially if in the acute stage of the fever, soon followed by a rise; rapid pulse; often a motion was passed with a small blood-clot. Later, evidence of gas in the peritoneum; loss or diminution of liver dulness; abdominal distension; free fluid in the peritoneum. In all stages, a pinched, anxious expression of features.

It was worthy of consideration whether in doubtful cases it would not be well to open the abdomen on the first evidence of localised peritonitis, the so-called pre-perforative stage, of which a further sign might be obtained in the onset of leucocytosis, the value of which was not as yet fully established, but was worthy of careful consideration. The majority of spontaneous recoveries were probably appendix perforations which did not materially differ from ordinary perforations of that viscus. The later in the fever the perforation occurred, the greater chance was there of limiting adhesions forming. The exact nature of the peritoneal infection would probably be found to be an important element in determining the issue. The typhoid bacillus itself seemed to play a small part in the peritoneum.

It was interesting that in the case which recovered no cultures were obtained from the peritoneal fluid thirty-six hours after operation.

Mr. R. H. Parry inquired, with regard to the case where there was no peritonitis, if any rigidity existed. He was not now in the habit of washing out the peritoneum and then leaving it alone, but in a recent case, where the lymph was very adherent, he had turned out the entire small intestine.

Mr. A. E. Maylard said that five years ago the successful cases might have been counted on the fingers. The statistics of perforation were of very little value. He imagined that the symptoms of a localised perforation of the appendix would differ from those of a perforation of the free bowel. It was impossible to decide on the method of treatment of the peritoneum until the actual condition was seen. In some cases it was useful to turn out the intestine, and in others to wash out the abdominal cavity. He narrated a successful case of Cushing's, in which the abdomen was opened three times.

Dr. Grant Andrew mentioned a case in which he had operated fourteen hours after the perforation. He had found a general peritonitis. The perforation was easily discovered and closed, but the patient died fourteen hours after the operation. He asked whether it was justifiable to search for a second perforation after one had been found, and mentioned that in some cases the colon was the seat of perforation. As flushing the abdominal cavity was not uniformly successful, he suggested continuous irrigation for forty-eight hours.

Mr. Maylard inquired whether it should be held that a surgeon should be called in in all cases.

Professor M'Call Anderson laid stress upon the importance of operating early and rapidly. He had not seen a successful abdominal case in which the operation had lasted more than two hours. If it were true that 5 per cent of the cases recovered naturally, some of those operated on might have recovered without operation.

Dr. Middleton said that there was a difference between cases treated in hospital and those treated at home. If patients had to be removed to hospital, the result was not likely to be favourable.

Dr. Dalziel replied that he agreed with Mr. Parry as to the frequent occurrence of rigidity in such abdominal cases. When the peritoneum was coated with lymph, the only means of removing the lymph was to turn out the intestines and clear it off, but that process was not in itself sufficient to render the peritoneum aseptic. He thought that the fluid should in all cases be examined bacteriologically. In one case he had sutured three perforations, all of which had evidently occurred at the same time. He could not advocate continuous irrigation, as it did not flush the whole abdominal cavity. A surgeon should be called in on the occurrence of any unusual or acute symptom. He would have no hesitation in operating in private in acute cases.

II.—CASE OF EXTRA-CAPSULAR FRACTURE OF THE FEMUR OPERATED ON.

BY MR. R. H. PARRY.

In this case distinct shortening of the limb was present, and the fragments were impacted. After an incision had been made over the trochanter, the femur was replaced in its proper position. The patient was up in six weeks, and was able to go about in seven. The shortening and other symptoms had disappeared.

Dr. Dalziel discussed the propriety of exposing fractures involving joints. Many of the fractures at the hip-joint might safely and properly be operated on, and with absolutely good results.

III.—LARGE NASAL POLYPUS WITH CYSTIC DEGENERATION.

BY DR. J. G. CONNAL.

The polypus was about the size of a large plum. It sprang from the upper border of the right inferior turbinated body by a narrow pedicle, and extended from the anterior nares back to the posterior nares. Anteriorly, the lining membrane was very thin, and this collapsed on the attempt to remove it. The method adopted to extract it was to pass a Krause's snare round it and sever the pedicle. The polypus was then removed with dressing forceps, and the base cauterised with the electric cautery.

The patient, a lady, 47 years of age, said she had some "growths" removed from the right nostril when she was a girl of 13 years, but she was not aware of the present condition. She sought advice on account of a slight dulness of hearing in both ears, and the polypus was discovered in the course of a routine examination of the nose. There were no symptoms of its presence, and no headache. When her attention was directed to it, she said that there might have been at times, during the last eighteen months, a slight feeling of obstruction in the right nostril, but nothing to complain of.

The nose is often remarkably tolerant of foreign bodies. It is not an unusual occurrence to find nasal polypi—even of large size—and the patients will affirm that there have been no symptoms of their presence.

Mr. Parry asked if the growths were simple, and was answered in the affirmative.

IV.—THE HEART FROM A CASE OF MORBUS CÆRULEUS.

BY DR. GLEN.

Dr. Glen's paper appears as an original article at p. 413.

V.—HEART WITH A SINGLE VENTRICLE AND A SINGLE AURICLE.

BY DR. R. M. BUCHANAN.

Dr. Buchanan showed a drawing of a heart with a single ventricle and a single auricle. There was no trace of either the ventricular or the auricular septum.

Dr. Middleton said that the central position of the cardiac dulness was similar to that in a case of his which had occurred some years ago.

MEETING X.—3RD MARCH, 1898.

The President, DR. G. S. MIDDLETON, *in the Chair*.

I.—FRESH SPECIMENS.

A. BY DR. J. H. NICOLL.

Vermiform appendix with ulcerative perforation excised from a case where secondary perforation of the cæcum had occurred.—The case illustrates two points—

1. Perforation of the cæcum may occur from the inside—as the result of ulceration (catarrhal, dysenteric, tubercular, malignant, &c.). As Treves has pointed out, it may also occur from the outside—as the result of contact with a perforated or gangrenous appendix. Within the past three years I have brought before the Society two other cases in which there existed what we found in this case. The perforated appendix, which forms the specimen, lay embedded in adhesions against the cæcal wall, and at one part of that wall there existed a

blackish-grey area in which a small ulcerative perforation gave vent to cæcal contents. This, Dr. Alex. Maclennan assisting, I closed with sutures, and there is every prospect of the case terminating as favourably as the two referred to.

2. Dr. Kirkland, who sent the patient, a young lady, to me, was led to advise operation because of the recurrent nature of the illness, the patient having had four attacks.

It is interesting to note, as has been frequently pointed out, that in appendicitis absence of fever and pain affords no guarantee that perforation does not exist. This patient had neither. She made a successful recovery, and left the nursing home well on 28th March, three weeks after the operation.

B. BY DR. J. M. M'CALL.

Dr. J. M. M'Call showed the liver and spleen of a dog affected with sarcomatous disease.

II.—A CASE OF STRICTURE OF THE PYLORUS IN WHICH GASTRO-ENTEROSTOMY WAS SUCCESSFULLY PERFORMED.

BY DR. NEWMAN.

The patient, a female about 35 years of age, was admitted to the Sandyford Nursing Home suffering from symptoms of obstruction to the pylorus for many months. The disorganisation of the process of digestion showed itself by more or less discomfort after meals, a sense of fulness in the region of the stomach, nausea, loss of appetite, pain and flatulence, accompanied by considerable distension of the stomach. The patient also complained of headache, mental depression, and a tendency to refrain from food. Later on vomiting was a marked symptom, sometimes occurring three or four times a week, and on these occasions the quantity vomited was very considerable, causing sour eructations and a burning sensation in the mouth.

The patient placed herself under the care of Dr. Alex. Shiels, and after some weeks her health considerably improved, so that she was able to retain food well, and increased considerably in weight. It was evident, however, to Dr. Shiels that the obstruction to the pylorus was steadily increasing, and he asked me to examine the patient with a view to operative interference. On palpation of the abdomen there was clear evidence of the presence of a swelling in the epigastric region, immediately under the right costal cartilages, moderately movable from side to side, but less so from above downwards. Over the rest of the stomach there was no undue sense of resistance, but there was clear evidence of considerable dilatation. The other abdominal organs and the organs in the thorax were normal. On 4th January, 1899, I opened the abdomen, by an oblique incision, 3 inches below the left costal margin, and extending from the middle line downwards and outwards; the stomach was exposed and the pylorus examined, when it was found to be occcupied by a small, hard, firmly adherent swelling, about the size of a Tangerine orange. There was no enlargement of lymphatic glands. An anastomosis was established between the stomach, 3 inches to the left of the pylorus, and the upper part of the jejunum, by means of a Murphy's button, which came away twenty-three days after. Previous to the operation the stomach required washing out once every forty-eight hours to prevent vomiting; but since the patient has not vomited except from chloroform sickness, her appetite has improved, she has gained weight, and the dyspeptic symptoms have disappeared.

The object of the operation was to establish an opening between the blocked stomach and the small intestine as high up in the jejunum as possible. The operation has been suggested under two conditions—first alone, and second as preliminary to a pylorectomy. In this particular case the objection to a performance of the latter operation was the circumstance that the pylorus and upper part of the duodenum were firmly adherent to the structures around, so that the removal of the disease would be attended with very considerable danger. Of course, one would prefer in all cases of epithelioma to remove the disease; but I have found, in some instances of malignant disease of the alimentary tract, that when a short circuit is established, and food is prevented from passing over the diseased parts, very considerable wasting and diminution in the size of the growth results. When the functional activity of the part is placed in abeyance the nutritive activity is diminished, as is well shown in the next case.

III.—A CASE OF TUMOUR OF THE COLON IN WHICH COLO-ENTEROSTOMY WAS DONE WITH A GOOD RESULT.

By Dr. Newman.

The case was one of a large tumour in the ascending colon causing chronic obstruction. The patient, a man, complained of symptoms pointing to obstruction in the colon dating back for many months. The onset of the disease was so slow and insidious that it was difficult to say when it actually commenced. The most troublesome symptoms were indigestion, diarrhœa alternating with constipation, colicky pain, and flatulence, which were most severe when associated with constipation. Occasionally the abdomen became considerably distended, and the peristaltic action of the bowels were greatly increased. For many months the bowels were fairly regulated by the use of medicine and carefully regulated diet. In June last, when the patient was seen by Dr. Shiels, the swelling in the ascending colon was large and extremely tender; but during the autumn, by careful treatment, the tenderness diminished, the swelling decreased, and the patient's general health improved. In December, 1898, movement of the bowels was effected only by the continual use of laxatives.

When I saw the patient, on 17th January, 1899, the colon was found to be occupied by a swelling, which extended from the crest of the right ileum to the costal margins, and occupied the abdomen as far forward as a line drawn between the middle of Poupart's ligament and the right nipple. The lower and upper limits of the swelling were elastic, while the central part was firm and hard. The abdomen was moderately distended, and, while examining it with the hand, every few minutes distended coils of bowel became visible as a consequence of increased peristaltic action.

On 21st January the abdomen was opened, and the condition of matters explored. The colon, from the caput cæcum upwards to the margin of the right ribs, was found occupied by a dense hard mass, which was firmly adherent to the parietes. The abdominal surface was smooth and regular, but the whole swelling was quite immobile. An anastomosis was established between the small intestine, close to the caput cæcum, and the patent colon, 4 inches above the mass just described, by means of a large Murphy's button. Since the operation the swelling in the colon has diminished to about one-third of its previous size, but the central part is even harder than formerly. Above Poupart's ligament the induration has disappeared, and there is also a clear space between the swelling and the ribs. The patient has not required any laxative, the bowels being moved regularly once or twice a day.

In this case the most remarkable fact is the rapid diminution in the size of the tumour within six weeks of the anastomosis being established.

IV.—A CASE OF ROUND- AND SPINDLE-CELLED SARCOMA OF THE PHARYNX—THE TUMOUR REMOVED BY OPERATION —NO RECURRENCE.

By Dr. Newman.

The patient, J. M'N., aged 41, was admitted to the Glasgow Royal Infirmary on 15th November, 1898, complaining of difficulty in swallowing, and pain at the back of the throat. The swelling in the throat was first noticed eight years previous to admission, and since then has slowly increased in size. He was not aware of any sudden increase in the rapidity of its growth; but it seemed, when he was admitted, distinctly larger than when he first presented himself at the beginning of November. The first thing that attracted his attention was an alteration in his voice, which has now come to resemble that of a person with cleft palate. He states that he has had no pain in the swelling.

On examination a distinct tumour was observed on the posterior wall of the pharynx, immediately to the left of the middle line. The swelling was smooth, tense, and on palpation with the fingers gave the impression of being cystic in its nature. As far as seen from the mouth, it appeared to be about the size of a hen's egg; but, on examination with the finger in the mouth, and palpation externally, the tumour was found to extend to the level of the cricoid cartilage. Its uppermost limit was on a level with the tip of the epiglottis. On account of the uncertain nature of the swelling, a portion of the growth was removed and submitted to microscopic examination, when its structure revealed the characteristic appearances of a round- and spindle-celled sarcoma. Tracheotomy having been previously performed, and chloroform administered through a long indiarubber tube, an incision was made through the cheek from the left angle of the mouth to the angle of the jaw. In making this incision, all the soft parts down to the mucous membrane were divided first, and only after all bleeding points had been secured was the mouth fully opened into. This allowed all the blood to escape externally. A ligature was passed through the tongue, and it was pulled well out to the right side. The larynx was plugged with sponges. An incision was then made through the mucous membrane from the uppermost limit of the tumour as far down as the finger could reach; but, even with this, considerable difficulty was experienced in shelling out the tumour with the finger, but by means of forceps the whole growth was separated from its attachments, and ultimately removed. The incision in the mucous membrane of the pharynx was not sutured, but the edges of the wound in the cheek were carefully brought together. The patient made an uninterrupted recovery, and was able to be up and about the ward within five days of the operation. The patient reported himself well on 2nd February and 3rd March.

The most remarkable feature in connection with this case is the long period which the tumour has taken to grow, the rapid increase in bulk occurring only during the last few weeks previous to admission.

A careful study of the history of recorded cases shows that sarcoma of the pharynx, as well as sarcoma in the larynx, remains local for a long time, in very few cases are the cervical glands involved, and it is not common for the viscera to become infected by the disease. In this respect the sarcomatous growths in the pharynx are a marked contrast to those of the tonsil, where secondary formations take place rapidly. The prognosis, therefore, in sarcoma of the pharynx, so long as the primary growth is completely eradicated, is by no means so grave as when the tonsil is the primary seat. Another important fact is that, while in the tonsil the sarcomatous new formation becomes diffuse and infiltrating, in similar growths in the pharynx the neoplasm is distinctly encapsuled. In the present case the prognosis therefore is favourable.

V.—CASE OF INJURY OF THE KIDNEY WITH PROLONGED HÆMATURIA—ULTIMATE RECOVERY.

By Dr. Newman.

The patient, J. S., a man aged 21, was admitted to the Glasgow Royal Infirmary on 17th December, 1898. The patient had attempted to jump on to a train while in motion at Bridgeton Cross station, and had fallen between the platform and the footboard of the train, in consequence of which he received a severe crushing, and on admission complained of pain across the lumbar region and in the abdomen. Beyond some grazing of the skin, there were no wounds nor injury to bones. The patient on admission suffered from considerable shock, and on examination a distinct fulness could be made out over the right lumbar region, and he complained of considerable pain on pressure over the right kidney. The first urine passed after admission was of a dark porter colour, and besides containing a large quantity of blood, it deposited urates; but no blood-clots were passed. During the night after admission the patient was restless, and passed urine at frequent intervals. The amount of blood decreased during the night, and at 6 A.M. the following morning perfectly clear urine was passed, free from blood and albumen. This was the only specimen, however, which did not contain blood, all the other samples being deeply coloured, although not so dark as that passed immediately after the accident. Again, on 19th December, urine quite free from blood and albumen was evacuated, again to be followed by many evacuations of blood-stained urine. The patient was kept at rest in bed, and a careful observation was made of each specimen of urine passed. With occasional remissions for a very short period, more or less blood was noticed from 17th December, when the patient was admitted, until 21st January, when he left the hospital. During the last week of his residence in the house the quantity, however, was so small as to be imperceptible to the eye. The fulness over the right lumbar region slowly disappeared, and when the patient was dismissed he was quite free from pain. On several occasions the urine passed immediately after the temporary cessations of hæmaturia contained small worm-shaped coagula, casts of the ureters showing that the freedom of the urine from blood was the result of plugging of the ureter by a clot. This case is remarkable from the fact that the hæmaturia continued during a long period after the accident. Generally in such cases blood disappears from the urine within at least a week of the accident. There was no evidence of injury of other abdominal organs.

The presence of blood in the urine in such cases does not necessarily denote rupture or laceration of the organ; and, on the other hand, severe injury may be sustained by the kidney without blood at any time appearing in the urine. The latter contingency may arise either as a result of the plugging of the ureter by a clot, or as a consequence of rupture of the ureter from the violence which caused the injury to the kidney, or in rare instances it may be due to the rupture of the kidney being so excessive that the blood escapes into the perinephric tissue only, and not through the ureter to the bladder.

In cases where the kidney is bruised, without laceration of its tissue, hæmaturia may be present for a few days after the accident. The bleeding is not usually prolonged or severe, and the presence of blood in the urine may not closely follow upon the injury; its appearance, indeed, in some cases may be delayed for hours, or even for days, from plugging of the ureter by a coagulum. In the more severe laceration of the kidney the urine is usually highly-coloured and scanty, and blood appears in the first quantity of urine passed after the accident; the hæmaturia may not be constantly present, and may vary in amount from time to time, or it may not appear at any time in the whole course of the case, consequently its absence must not be taken as an indication that the kidney is free from injury. Supposing the ureter to be completely torn across, or the kidney divided through nearly its whole thickness, the great probability is that the blood will escape into the tissues surrounding the injured organ rather than by the ureter and bladder.

Dr. Ernest Thomson asked if Dr. Newman made a lateral incision in the bowel in forming the anastomosis in the first case.

Dr. Middleton had been much interested in the first case. He considered that non-malignant pyloric tumours were much more frequent than was usually supposed. In such cases the operation should prove very useful.

Dr. Newman replied that narrowing of the pyloric orifice was frequently due to spasm. Myoma of the stomach, too, was not very uncommon. It was very difficult to distinguish clinically between malignant and non-malignant tumours of the pylorus. The patient should therefore always be given the chance afforded by an operation.

VI.—FRONTAL SINUSITIS, WITH SEVERAL ILLUSTRATIVE CASES.

By Dr. Walker Downie.

Dr. Downie's paper will be found as an original article in our issue for May, 1899, at p. 341.

Dr. Newman said that the most important symptom in these cases was the interruption of symptoms rather than their mere presence. The interruption of nasal discharge, for example, was of importance in the diagnosis. He related a case on which he had operated as far back as 1885. The most marked case he had ever seen occurred in a patient suffering from influenza and generalised catarrh. He considered free drainage into the nostrils as of great importance. To obtain this it was often necessary to remove a portion of a turbinate bone.

Dr. Rowan said that of the five cases shown two had squint, but while in one of these the squint was most probably due to the frontal condition, in the other there was probably no connection between the two. He remarked on the condition of the pupil in several of the cases; and Dr. Downie said that in one case the pupil dilated during the attacks of pain, returning to its normal condition when the attack passed. These points, Dr. Rowan continued, were of interest, as showing the connection of the eyes with neighbouring structures, and the importance, while practising one speciality, of not confining oneself too exclusively to it in dealing with the etiology of all morbid conditions.

Dr. Edington asked if Dr. Downie removed the lining membrane of the frontal sinus, and if he expected the sinus to become filled with cicatricial tissue.

Dr. Downie replied that the sinusitis had no relation to squint, as far as he knew. The lining membrane of the sinus was scraped when it was severely affected, but not when it was simply inflamed.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1898-99.

MEETING VIII.—8TH MAY, 1899.

The Vice-President, DR. BARR, *in the Chair.*

I.—THREE CASES OF MITRAL STENOSIS.

BY DR. J. LINDSAY STEVEN.

Dr. J. Lindsay Steven's paper appears as an original article at p. 401.

Dr. Robertson remarked that this group of cases was an interesting one pathologically, though clinically presenting nothing unusual. He agreed with Dr. Lindsay Steven that the occurrence of thrombi in this class of case was uncommon, but would be accounted for by the small volume of blood reaching the left ventricle; emboli, on the other hand, were more frequent. In regard to coma mentioned as having taken place in the third case, he had seen deep coma resulting from a simple plugging of the vessel without hæmorrhage or effusion. Presystolic murmur was absent in a large proportion of cases—in fact, was absent nearly as often as it was present. Dr. Robertson believed, with others, the murmur to be a forward and not a retrograde murmur.

Dr. Cowan drew attention to the fact that in the case of the boy—the third case narrated by Dr. Lindsay Steven—where the constriction at the mitral orifice was extreme, and where the dilatation and hypertrophy of the left auricle were well marked, there was no presystolic murmur present. This was specially significant if the murmur was to be regarded as due to the contraction of the left auricle.

Dr. Johnstone Macfie said that in describing the cases Dr. Lindsay Steven had not laid any special emphasis on the presence of an accentuated or reduplicated second sound, signs which were at one time regarded as important. He wished to know if these were still looked upon as important aids to diagnosis. He was interested also in the completeness of the coma in one of the cases mentioned, and thought that the suddenness of the obstruction would cause a certain amount of shock—perhaps a factor in the degree or depth of the coma.

Dr. J. Lindsay Steven, in reply, said that he was gratified with the discussion. Dr. Cowan's remarks were worthy of consideration. They all agreed, at anyrate, in regarding the murmur as a forward one, thus differing from many who considered it as an arrested systolic murmur. It was difficult to see how an atrophic left ventricle could produce the murmur; but with increased lung tension, and a greatly dilated and hypertrophied left auricle, one could imagine the murmur produced by contraction of the latter. From examination of many cases *post-mortem*, he was forced to conclude that the valve cannot close at all from thickening and deposit in the cusps and from similar changes in the chordæ tendineæ.

Dr. Cowan thought that there might be an increase of tension.

II.—A CASE OF TORTICOLLIS AND OTHER SPASMODIC DISORDER.

By Dr. Alex. Robertson.

Clinical history.—J. S., aged 26, joiner, admitted to Royal Infirmary on 5th April last complaining of shaking of the head and a turning of it towards the right side. About a year ago he had a weakness in his right arm, and also a shaking when he was doing anything with the hand. This had come on gradually, and was only apparent when doing certain things, such as planing, sawing, &c. He could push the tool forward, but in the backward movement the hand tended to rise and lift the tool from the wood. The patient was then seen and prescribed for by Dr. Robertson. The hand has improved somewhat since then, and patient says he could now work with it if he could keep his head steady. There seems to have been no disturbance of sensation in hand and arm. The shaking in head and the twisting of neck were noticed first about middle of January last. This developed within a very few days, and patient had to stop work about end of January. When he is using his right arm to do anything at all, or when he is walking, his head shakes from side to side, and is drawn round towards right shoulder. When walking he has to put his right hand to his chin to keep the head steady. If he is doing anything with the hand, and can at same time rest the fore-arm on any support, the shaking and twisting do not occur. There is no shaking when patient is at rest. When he uses his left arm the shaking and turning of his head to the right still occur, but not to the same extent as when right arm is used. The shaking has never interfered with writing. He thinks some extra heavy work was the cause of the initial trouble in his arm. Patient suffered from influenza six weeks before admission, and says that since then the shaking of head has been worse. Has noticed that it was less after very long walks, and also when his hands are in certain positions—*e g.*, clasped above head.

Family history good. No neurotic element in it. Patient's habits are correct. No syphilis. Is in good general health.

When he walks or lifts anything heavy in right hand the head begins to turn towards the right. It is jerked gradually until it reaches a certain point where it can be held steady, and can also be brought back to the normal position, though with an effort. In these movements the left sterno-mastoid and anterior part of left trapezius stand out prominently; at the same time, on the right side, the inner and upper part of the trapezius, splenius capitis, and probably also the rectus and obliquus muscles are fuller, and seem to be acting unduly. Even when his head is straight in the normal position, the muscles referred to, but more especially the left sterno-mastoid, appear to be hypertrophied. Patient, however, explains that at his work as a joiner he thinks that the left shoulder was apt to be raised more than the right owing to the lowness of the bench.

He states that his arm is much better than it was a year ago, but still occasionally when he draws back the fore-arm, if in the flexed and semi-prone position, it is jerked upwards on to the upper arm. This was observed, and appeared to be due to the combined action of the fore-arm flexors, and perhaps also slightly to the pronator radii teres.

Arm is well nourished, and there is no exaggeration of reflexes.

The spasm does not involve the muscles of the face or eyes, or any other part.

Dr. Robertson regarded the condition as one of functional disorder of the cells of the anterior cornua, and chiefly involving the fifth, sixth, and seventh cervical nerves.

Mr. Parry asked Dr. Robertson how he accounted for the involvement of the small muscles at the nape of the neck, the recti, and oblique muscles, if the lesion was limited to the fifth, sixth, and seventh cervical nerves. He thought that the attitude of the man at his work might have something to do with its causation.

Dr. R. M. Buchanan said that the case seemed to him to resemble one of occupation neurosis, analogous to writer's cramp. This man was a wright; in using the plane it is quite a common thing to see the wright move his head with every movement of the arm. The spasms in this case originated in the muscles of the arm, and afterwards extended to the muscles of the neck. He would like to hear Dr. Robertson's opinion on the point whether the condition was one primarily affecting the muscles or secondary to a spinal lesion.

Dr. Robertson, in reply, said that he regarded the condition as primarily spinal, and one of disordered action of the spinal cells. Just as in a case of intracranial lesion you might have extension to the neighbouring cells, so here. He could not regard the condition as a pure case of occupation neurosis. The patient was being treated by massage and electricity. An operation was contemplated.

III.—RENAL CALCULUS REMOVED FROM A PATIENT ON WHOM NEPHRO-LITHOTOMY WAS PERFORMED ON THE OPPOSITE SIDE TEN YEARS PREVIOUSLY.

By Mr. R. H. Parry.

Mr. Parry exhibited a large renal calculus removed from a patient who had had nephro-lithotomy performed on the opposite kidney ten years previously.

Shortly after the operation on the right kidney patient complained of severe pain in the left side, and in consequence no relief was experienced after the operation.

Five years afterwards her condition caused much anxiety, and a consultation was held, but it was decided to leave matters alone, partly on account of the state of her health, and partly from fear that the left kidney was the only one which was acting, and that operation might render it less able to carry on its functions.

Mr. Parry was asked to see her with her medical attendant about the beginning of this year, and at the consultation it was agreed to recommend an operation, as they had no doubt that the cause of the pain, the large quantity of pus in the urine, and the enlargment of the kidney, was a renal calculus.

On incising the kidney, which was reduced to a thin capsule, a stone was exposed, and on removal it was found to be a large branched phosphatic calculus. The operation was well borne, but for the first two days there were symptoms of shock.

All the urine escaped by the lumbar wound, none being passed by the urethra. To render patient's position more comfortable, the end of a long rubber tube was passed into the one in the wound and maintained in contact with it by a stitch, while the other end of the tube was passed into a bottle containing a solution of boracic acid. This method has been tried in other cases with complete success, and it has this advantage, that, on raising the bottle containing antiseptic solution, the cavity in the kidney can be flushed out as often as desired.

By the end of the fourth week the wound was completely closed, the urine almost free of pus, and she expressed herself as feeling more comfortable than she had done for years.

IV.—THE BONES OF A FOOT AFTER A MIKULICZ'S OPERATION.

BY MR. R. H. PARRY.

Mr. Parry also showed the parts after a Mikulicz's operation for disease of the ankle-joint and tarsal bones. The four inner metatarsæ were united to the tibia by a fair amount of osseous tissue, while the fifth was united so perfectly with the fibula that the line of union could not be made out.

The patient had an excellent stump, and made free use of it till his death from tubercular meningitis.

GLASGOW EASTERN MEDICAL SOCIETY.

SESSION 1898-99.

MEETING VII.—1ST FEBRUARY, 1899.

The Vice-President, DR. W. L. MUIR, *in the Chair.*

THE FEVERS OF WEST AFRICA: THEIR NATURE, TREATMENT, AND PREVENTION.

BY DR. JOHN RITCHIE.

Dr. Ritchie's paper will be found as an original article in our issue for May, 1899, at p. 328.

Dr. Wm. Park Porter said that he had, while resident in Old Calabar, seen most of the types of the fever described in the paper. He quite endorsed the opinion that malarial infection may be transmitted by the air as well as by drinking-water. He gave an instance of how he had himself taken fever after sleeping some hours in an open boat in a swampy district where drinking-water could not be obtained. He was not competent to say whether black water fever and yellow fever were identical. The insanitary conditions had greatly to do with the production of fever; wherever the houses had been properly built, there he found a proportionate immunity from fever. The taking of alcohol was not at all necessary as a prophylactic; he instanced the late Mr. Goldie, a missionary in Old Calabar, who was a total abstainer from alcohol for forty-nine years, and died at the age of 80.

Dr. Knight emphasised the fact that Lauder Brunton had pointed out how 10 or 15 grains of quinine were sufficient, that if taken in teaspoonful doses the greater portion simply passed right through the bowel.

Dr. Ritchie (in reply to *Dr. Patrick*) said that the porter-coloured urine was hæmoglobinuria; there was no lesion of kidneys found *post-mortem.* Koch he believed to be hopelessly wrong in considering quinine to be the cause of malaria. The mosquito may be also dismissed as a source of malaria; in West Africa there are no mosquitoes and plenty of malaria, and in Malta there are mosquitoes and no malaria.

He could not see (in reply to *Dr. Barras*) how chill could act as a factor in the production of fever. The amount of the prophylactic dose of quinine to be taken must be found out by each individual for himself. He found 4 grains of the sulphate daily sufficient.

MEETING VIII.—15TH FEBRUARY, 1899.

The President, DR. MALCOLM BLACK, *in the Chair.*

I.—A CASE OF MÉNIÈRE'S DISEASE.

BY DR. JOHN PATRICK.

The patient is a strong, healthy girl, 18 years of age. On the night of 27th January, 1898, after having finished some piece of work, and while stooping, she suddenly heard loud noises in the left ear. At the same time unilateral complete deafness ensued. She slept well during the night, but next morning, on attempting to rise, the giddiness was so great that she fell back in bed. A few hours after the onset of the vertigo, or at least after its discovery, vomiting began, and continued more or less constantly for four days, during which the acute symptoms lasted. The tinnitus, at first, took the form of the squealing of a gas jet. After a few days it seemed like the sounds one hears when a shell is held to the ear. This form continued for a month, and then it became like locomotives blowing off steam.

The deafness was almost absolute. In the first few days of the illness there was neither aërial nor bone conduction. The appearance of the tympanic membrane was normal, and identical with that of the other side. There was no discharge. A tuning-fork held in the middle of the forehead was heard only in the sound ear.

The vomiting was of the usual cerebral type, without retching or expulsive effort. The vertigo was intense. When the patient tried to sit up, she fell back instantly; she felt perfectly unable to maintain the upright position. The only posture which seemed to relieve this symptom was lying on the affected side, with the head hanging over the edge of the bed at the extremity of the pillow. The objects in the room seemed to rotate always from left to right. During the most acute stage of the illness, for four days the temperature ranged from normal to 101·4°; the pulse-rate was increased. For these four days she lay prostrate in bed, and always on the affected side. She was exceedingly drowsy, and for many days afterwards slept a great deal. There was no coma, nor at any time loss of consciousness. The pupils were normal, and reacted normally both to light and accommodation. The fundi of the eyes were also normal. The reflexes were also normal throughout.

The vomiting ceased after four days. The vertigo persisted slightly for some days after cessation of the acute phase. In a few days the hearing of the affected side improved so that patient could hear a watch in contact with the external ear and the mastoid process. But the improvement was not permanent, as a month later it was doubtful whether the watch could be heard at all even on contact. The tinnitus diminished greatly, and disappeared altogether for a short time, but returned.

The treatment adopted was general only. Pilocarpine injections were suggested, but as the patient was now able to go about, she declined to undergo any treatment which would necessitate her staying in bed. Perhaps the fear of doing harm in using pilocarpine when the patient is going about was groundless, as one remembers to have seen out-door patients in Politzer's clinic receive pilocarpine injections and go home immediately, although exposed to the cold of a Vienna winter day.

The present condition (one year after the illness) of the patient is good. Her general health is excellent. There is, however, constant tinnitus on the affected side, but it is not so bad as to interfere with her comfort. The deafness is almost absolute on the one side, the watch-tick can be heard only very slightly by bony conduction, and not at all by aërial conduction. There is no vertigo.

II.—A CASE OF THROMBOSIS OF THE SIGMOID SINUS.

By Dr. John Patrick.

History of illness.—Patient, a little girl, A. R., aged 8, had for two or three years suffered from slight, nearly constant discharge from the left ear. Treatment of this had been rather spasmodic. The child was said to have caught cold a few days before the onset of the symptoms; this cold resulted in greatly increased discharge from the ear, of a very foul odour.

On 16th January she began to suffer from intense headache, chiefly frontal, and to complain of pain around the left ear. The temperature that evening was 103°; the pulse, 120. Examination of the ear was very unsatisfactory, as the external auditory canal was so narrow as to prevent a view of the membrane being obtained, and great pain was felt at the slightest touch. Two days later there was a slight shiver or "cold feeling." On this day there was pain felt, with fulness on palpation in the course of the left jugular vein, and on tapping the mastoid.

The symptoms therefore were these:—Cephalalgia; bounding high temperatures, up to 103° at least; rapid pulse; a slight shivering; pain over jugular vein and mastoid regions; profuse foul-smelling discharge from ear.

Removal to hospital for observation was recommended, but before the necessary preliminary arrangements could be made, the patient, on 21st January—five days after the onset of the acute symptoms—fell into a graver state. She became semicomatose, though rather irritable. There was occasional internal strabismus and twitchings of left side of face, with retraction of the head. The temperature was 102°; the pulse, 140, and very small. In this condition the patient was immediately removed to the Royal Infirmary. In the absence of Dr. Knox, Dr. Ritchie Thomson trephined the mastoid cells. On opening into the antrum, it was found filled with foul-smelling pus identical with that in the external ear. The burring was continued backwards towards the sinus. The sinus was not pulsating, except with a communicated impulse from the brain. It was noted that it could be depressed with the finger, but not indented. The wall of the sinus was covered with a layer of recent inflammatory exudation, of greenish tinge, which was easily peeled off. This exudation layer extended for about half an inch along the sinus in both directions. Further interference with the sinus was not considered advisable.

The patient never rallied, and died about two hours after the operation.

Post-mortem examination by Dr. M'Crorie revealed diffuse suppurative leptomeningitis, with the pus lying in islands on the surface of the brain. There was a quantity of pus at the base of the brain, and also in the upper end of the spinal canal. The cerebellum opposite the knee of the sinus was covered by a thick layer of pus mingled with inflammatory exudation; this area and the membranes at this point were stained a distinct greenish tint.

On slitting the sinus, after removal of the dura mater, its cavity was entirely occupied by a thrombus of dark-red colour; towards the torcular Herophili this tapered into a conical thrombus, whiter and firmer than the rest. The micro-organisms found in the pus were streptococci and the bacillus pyocyaneus.

It is notable that the duration of this case was so short. Exclusive of the time during which patient had suffered from chronic ear disease, the illness lasted only six days.

The mastoid cells and antrum were probably infected long before patient came under notice. (Politzer teaches that the mastoid cells always share in an acute inflammatory condition of the middle-ear.) The onset of cephalalgia with the high temperature six days before death meant that thrombosis of the sinus was actually taking place. The very serious symptoms on the last day of illness were brought about by the spread of the infection from the lateral sinus, by contiguity or by the blood-stream, and the lighting up of the suppurative meningitis.

MEETING XI.—5TH APRIL, 1899.

The President, DR. MALCOLM BLACK, *in the Chair.*

INTERCELLULAR SALINE INJECTIONS IN ECLAMPSIA, WITH NOTES OF SEVEN CASES.

BY DR. ROBERT JARDINE.

Dr. Jardine's paper, with notes of five of these cases, was published in the *Journal* for March, 1899, at p. 169. The notes of the remaining two cases will be published at a later period.

Dr. Wm. Patrick had found that he succeeded best with emptying the uterus as quickly as possible, and resorting to free purgation and hot pack.

Dr. Knox advocated the use of Jenning's transfusion apparatus. The beneficial results from injection or transfusion of saline fluids were seen in those frequent cases of railway smash where the patient is admitted to hospital pulseless almost and cold. The transfusion revives the patient wonderfully, and permits of operations being performed with some hope of success. A less painful situation than those suggested by Dr. Jardine would be the cellular tissue of the abdomen. Salines could be injected in septicæmic conditions.

Dr. Black said that, as regards the operation of transfusion into a vein, there was frequently some trouble in finding the vein and in getting the cannula into it. The result seems to be quite as good when the fluid is run into the cellular tissues. There is also less risk of sepsis. The principle in the treatment was to flush the kidney. He would combine with the intercellular injections, the use of morphine injections with the hot pack and steam bath. In hæmorrhages there is no doubt whatever as to the value of saline injections.

Dr. Jardine, in reply, said that the potassium bicarbonate was added for a better diuretic effect. The method is not new. It saves time; in one case a pint of fluid was run in in four minutes. The Americans seem to consider veratrum viride as a specific in eclampsia, but he cannot agree with the opinion.

REVIEWS.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.D., F.R.C.P., F.R.S., &c. Vol. VI. London: Macmillan & Co., Limited. 1899.

THE present volume of Allbutt's *System* deals with Diseases of the Circulatory System, Diseases of the Muscles, and Diseases of the Nervous System. It is impossible in the space at our command to give an account of all the articles; but by making a selection of some of the more important, our readers may obtain some idea of the scope of the volume.

The first article is on Right-sided Valvular Diseases, and is from the pen of Dr. Newton Pitt, of Guy's Hospital. As is to be expected from the comparative rarity of valvular lesions of the right side of the heart, the article is largely of a statistical nature. The analysis of recorded cases and of unpublished records from Guy's Hospital is exceedingly well done, and the article for purposes of reference is most valuable. One or two illustrative points from the article are worthy of note. Pulmonary incompetence is the rarest of the valvular lesions of the heart, only 17 cases having been noted in the *post-mortem* room at Guy's out of 11,000 examinations during twenty-three years. Occasionally pulmonary stenosis occurs after birth—10 cases are recorded—and when congenital it has considerably increased as the result of rheumatism. Tricuspid incompetence is by far the most frequent right-sided lesion; and tricuspid stenosis, though decidedly rare, is much more common than any lesion of the pulmonary valves. The details on which these statements have been made are most minute and exhaustively tabulated, and we think they quite justify the conclusions arrived at. In connection with tricuspid stenosis, we would remind our readers of an extreme case of this lesion published by Dr. George S. Middleton in this *Journal*, and afterwards included in his volume of *Clinical Records* (Glasgow: A. Macdougall. 1894). This instructive case has apparently escaped the notice of Dr. Newton Pitt.

Sir Douglas Powell's article on Angina Pectoris is a readable communication which does not add very much to our essential knowledge of the disorder. There is, on the whole, little of fundamental importance in the article that is not to be found in his paper in Vol. XIV of the *Medical Transactions*, 1891. The "intermittent claudication" theory, to which Osler has recently directed our attention in connection with Allan Burns' observations, is discussed; but essentially the teaching of the author at present is that contained in his paper of 1891. He still includes his angina pectoris vasomotoria as a variety of the affection. This in our view is a mistake. No doubt it gives us a larger range in our view of angina, but we do not think it conduces to accuracy in our pathological or clinical conceptions of the disease. Some of the speakers in 1891 manifested great difficulty in accepting the vasomotor variety, and we quite sympathise with them. It is not the angina of Heberden, and it is the angina of Heberden that is the important thing for the scientific physician. Vasomotor angina lands us in the consideration of all kinds of side issues, and leaves an open door for a good deal of humbug.

An exhaustive section, extending to nearly a hundred pages, on Diseases of the Mediastinum is contributed by Dr. Frederick T. Roberts. The article includes an account of the affections of the thymus gland. The subject of mediastinitis in its various forms is concisely and instructively dealt with; but the greater part of the article is taken up with the pathology and diagnosis of the new growths which are liable to occur in this region. The work of Dr. Lindsay Steven on mediastinal tumours is frequently referred to.

Professor Welch, of Baltimore, contributes the articles on Thrombosis and Embolism. These extremely interesting studies will probably be more consulted by the pathologist than the clinical physician, and some idea of the minute detail with which the processes have been discussed will be obtained when we mention that Professor Welch has required no less than a hundred and thirty pages for the publication of his articles. We are glad to see that, in his view of the nature of the hæmorrhagic infarction of the lung, he is opposed to the teaching of Hamilton and Grawitz. So are we.

In Dr. Mott's carefully written and well illustrated chapter on Arterial Degenerations and Diseases we are pleased to observe that the paper by Dr. M'Crorie, of Glasgow, on the "Atheromatous Disease of Arteries," published in the *Journal* in 1892, has received due recognition.

Sir William Gairdner's article on Aneurysm of the Aorta is one of the most scholarly and comprehensive monographs on this disease which we have ever read. It stands out as the work of a master, and is characterised by that accurate knowledge of detail and broad philosophic grasp which the distinguished author has displayed in all his medical writings. From the first paragraphs on definitions to the concluding sentences on treatment, every page bears the impress of the writer's lengthened experience and wide reading. There is scarcely a point that is likely to arise in connection with the etiology, diagnosis, or treatment of the disease which does not receive full consideration. As a splendid example of sustained and convincing reasoning, we would specially refer our readers to that portion of the article in which the writer states his views on the influence of strain and increased blood-pressure as an etiological factor in the causation of aneurysm, and we shall be surprised if most of them do not in the end agree with the conclusions at which he has arrived. On the basis of a very much more limited experience, we agree with him in saying that, "except in cases of the first part of the arch (in many of which the valves of the heart are also involved), hypertrophy of either ventricle is not in any very notable degree an accompaniment of most aneurysms at the time of the death of the patient." Sir Wm. Gairdner is well known as one of the first who firmly established the principles of what may be called the physiological diagnosis of aneurysm of the aorta, and in this connection it is most interesting to read the account of his method of ascertaining the condition of the larynx by means of examination with the finger before the use of the laryngoscope was introduced to this country.

We have no space to discuss the remaining articles of the volume in detail. The second part of the book deals with Diseases of the Muscles and Tropho-Neuroses. We find full accounts of such diseases as Thomsen's Disease, Facial Hæmiatrophy, Raynaud's Disease, Erythromelalgia, &c. Dr. Barlow's article on Raynaud's Disease contains several very characteristic illustrations.

The section on the General Pathology of the Nervous System is from the pen of an eminent authority, Dr. Bevan Lewis, and begins with a succinct account of the modern conception of the *neuron.* We recommend a careful study of this article to all who desire to keep themselves abreast of the most recent discoveries in the physiology of the nervous system.

The discussion of Tremor, Tendon-phenomenon, and Spasm is undertaken in two sections—the physiological by Professor Sherrington, and the clinical and pathological by Dr. Sharkey. Articles on Diseases of the Nerves and of the Spine conclude the volume.

An Epitome of the History of Medicine. By ROSWELL PARK, A.M., M.D. Second Edition. Illustrated with Portraits and other Engravings. Philadelphia: The F. A. Davis Co. 1899.

WE previously reviewed favourably the first edition of this work. The early demand for a second proves that it has met a popular want. A supplementary chapter on "Iatrotheurgic Symbolism" has been added. We again commend the work.

An Experimental Research into Surgical Shock: an Essay awarded the Cartwright Prize for 1897. By GEORGE W. CRILE, A.M., M.D., Ph.D. Philadelphia: J. B. Lippincott Company. 1899.

PROFESSOR CRILE presents us herein with the details and results of a long series of experiments undertaken by him in order to ascertain the nature of surgical shock, the circumstances which influence it, and the means by which it may be prevented. In this investigation one hundred and forty-eight animals were subjected to experiment, and the effects of injuries on every tissue of the body, on every region, and on every organ were carefully and almost exhaustively studied. The author has met with numerous unexplained phenomena and paradoxical results, and in this respect has only shared the fate of other experimenters in the domain of physiology. He says, "The magnitude of the subject and the great number of unsolved questions in physiology involved, must serve as my apology for the incompleteness of the research." At the same time, it is much to have "complete records of each experiment, involving the tracings, description of the animal, of the experiment, and of the autopsy," and we must thank Professor Crile for the painstaking accuracy with which the experiments were carried out and the details recorded.

The results of his labours is mainly to confirm the views of Goltz, Fischer, and Schneider, that shock is due to "impairment or breakdown of the vaso-motor mechanism," or, in other words, to a vaso-motor paralysis. Hence, the essential phenomenon is the lowering of the blood pressure; and the condition of the heart and lungs—the lowered force and frequency of heart beat and respiration—are entirely due to the lowered arterial and venous tension. There are, however, certain factors which either induce shock or render it more grave, which require to be taken into account, such as the duration and nature of the operation performed, the temperature of the room, the physical condition of the animal, the effect of the anæsthetic, and the amount of blood lost. But when these are closely studied, they are all found to be associated with lowered blood pressure. This is, of course, most obvious in the case of hæmorrhage, but a little thought will convince us that it is also true where an operation is unduly prolonged, or where the vital powers are lowered by disease or insufficient nourishment. In regard to the effect of the anæsthetic, it has been a common fallacy to assume that under the use of chloroform and ether little or no shock is experienced. Dr. Crile shows that under both anæsthetics the blood pressure fell, but to a much more serious extent with chlorform than with ether, and that with the arrest of the administration the respirations became fuller and more frequent, and the blood pressure went up. In several of the experiments the heart went on beating for some seconds after the respirations had come to a standstill, and in other instances the heart was the first to stop; in either case the very marked effect of artificial respiration in again starting the cardiac cycle after it had ceased was a most instructive and valuable observation. The author points out as a prominent objection to the use of chloroform as against ether, the greater liability of the former to cause sudden cardiac arrest; "ether," he says, "in no instance caused sudden cardiac arrest, chloroform three times."

The book is illustrated by numerous tracings and pressure charts, and is a very creditable production. We trust it will not fall into the hands of our anti-vivisectionist friends, for it would not be easy to convince them that the results obtained are sufficiently valuable to justify the "torture" and death of one hundred and forty-eight animals.

Diseases of Women: a Treatise on the Principles and Practice of Gynecology for Students and Practitioners. By E. C. DUDLEY, A.M., M.D. London: Henry Kimpton. 1898.

IN this work of fully 600 pages the author departs from the usual anatomical division of the subject, and presents it on what he terms "pathological lines" in five parts, as follows:—I, General Principles; II, Inflammations; III, Tumours, Malformations, and Tubal Pregnancy; IV, Traumatisms; V, Displacements and Pelvic Massage. There is no doubt that regional classification has many disadvantages, more especially when such subjects as inflammation are being considered; but it is, to say the least, questionable whether the author has succeeded in devising a better mode of division. In Part II, for instance, we find prolapse of the urethra and vaginismus discussed. Why these should be classed under inflammations would require too great a strain on our power of imagination to discover.

The most valuable portions of the work are those devoted to treatment. They are thorough, and are based on the author's wide clinical experience. In the interesting chapter on uterine myomata, enucleation, with or without vaginal drainage, is strongly advocated, and the author asserts that with this treatment he has had "most gratifying permanent results." In view of the fact that the general feeling is against enucleation, except, perhaps, in some cases during pregnancy or at the menopause, and against drainage in almost all cases, it is a pity that Dr. Dudley has not supported his statement by statistical details.

One naturally turns to the description of the author's operation for dysmenorrhœa and sterility, when associated with acute anteflexion of the uterus, which has been so strongly recommended in this country by George and Skene-

Keith. Seven pages are found to be devoted to it, and the author states that his experience now extends to fifty cases, 75 per cent of which have been cured.

With regard to pathology, the information given is not so accurate as one would desire in a text-book "for the use of students and practitioners." As an instance may be quoted the statement that adenoma malignum is identical with adeno-carcinoma.

The book is well bound, clearly printed, and provided with a large number of diagrammatic illustration, which, with the numerous tables on differential diagnosis, should tend to assist its readers in their comprehension of the text. Unfortunately, however, it is marred by looseness of style, grammatical inaccuracies, and many printers' errors. A second edition will require careful revision. Such mistakes as "in either one of three ways" are inexcusable, while the description of chorionic villi as "clusters of circular bodies" is not only insufficient, but misleading.

An American Text-book of Diseases of the Eye, Ear, Nose, and Throat. Edited by G. E. DE SCHWEINITZ, A.M., M.D., and B. ALEX. RANDALL, M.A., M.D., Ph.D. Vol. II. London: The Rebman Publishing Co., Limited. 1899.

VOL. I of this text-book is wholly devoted to the consideration of the eye; while in this, the second volume, the anatomy, physiology, diseases and injuries of the ear, nose, and throat are discussed in thirty-three sections by as many authors.

In defence of the "collaboration method" of text-book manufacture here adopted, the editors in their preface quote the words of Dr. W. H. Howell, who says that "the student gains the point of view of a number of teachers, reaping, in a measure, the same benefit as would be obtained by following courses of instruction under different teachers." While this is true, there is a certain amount of overlapping and occasional repetition, despite careful editing, which again, however, may be advantageous in that the opinions of different authorities on the same points are obtained. Abscess of the septum, for instance, is fully discussed and figured by Dr. Casselberry under "Acute Affections of the Nose," and the same condition is also described and illustrated by Dr. Roe in the section contributed by him on "Injuries and Deformities of the Nose." While on the subject of illustrations—which are not only numerous, but, with few exceptions, well-executed and helpful in the elucidation of the text—there is one, amongst the many, in the interesting section on "Affections of the Auricle" by Dr. Theobald, entitled "Epithelioma of the auricle of twenty years' standing, with cicatricial contractions." The duration of the growth, and the presence of scar-tissue, appear to us to be incompatible with the diagnosis.

The editors have been fortunate in the choice of their contributors, and each section into which the volume is divided, and which is brought well up to date, is worthy of careful perusal.

The index, which serves both volumes, and which is a very full one, occupying no less than 37 pages, is to be found at the end of this volume. This arrangement, we fear, will greatly interfere with the usefulness of Vol. I to ophthalmic surgeons, and we would suggest that, in a reissue of the work, each of the two volumes be provided with a separate index.

The Sanitation of British Troops in India. By E. CARRICK FREEMAN, Captain, R.A.M.C. London: The Rebman Publishing Co., Limited. 1899.

THIS little book is written for the purpose of aiding the inexperienced medical officer in his work of inspection, and of giving to non-medical readers an intelligent idea of the sanitation necessary for the preservation of the health of British troops in India.

It gives an exceptionally clear insight into the various duties of such Indian servants as cooks, milkmen, clothes-washers, sweepers, and water-carriers. The relation of these to the causation of disease is truthfully stated, and the deductions drawn therefrom as to the best means of preventing the spread of infection constitute by far the most valuable parts of the work. The remedies suggested by the author are so simple and inexpensive that one marvels that many of them have not already been carried out.

Greater emphasis, however, should have been placed on the relation of the ground-air and ground-water to the prevalence of such diseases as enteric fever, cholera, and malaria. Fuller consideration should have been given to the precautions necessary to prevent the ground-water rising above two metres from the surface, and to the absolute necessity of having the floors of the houses impervious to the entrance of the ground-air in all places where these diseases are endemic or epidemic. If such precautions are not taken, the result of rains, or of changes in temperature incidental to day and night, is that the ground-air is forced into and permeates the rooms of dwelling-houses, to the great danger of the inhabitants.

To mention some lesser points, the impression is conveyed that aromatic substances are also antiseptics, while in the section on "Water" the fact that the addition of ten to fifteen drops of dilute sulphuric acid to the glassful of water is an excellent prophylactic against cholera is omitted.

On the whole, then, the author must be congratulated on his success in having written a book on a difficult subject not only in a scientific manner, but at the same time in so graphic and interesting a style. It should not fail to become popular amongst all classes of readers.

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Issued by the Medical Officers of Schools Association. Fourth and Enlarged Edition. London: J. & A. Churchill. 1899.

Schoolboys' Special Immorality. By MAURICE C. HIME, M.A., LL.D. London: J. & A. Churchill. 1899.

GREAT BRITAIN is justly proud of her great public schools, and recognises in them the training-ground of the men who have and who will maintain the honour and extend the bounds of the empire. The discipline, the *esprit de corps*, the healthy rivalry, and the physical training which obtain at the English public schools are elements quite as important as the mere scholastic training in forming the characters and shaping the destinies of the boys. At the same time, like all other human institutions, the public schools are not without their disadvantages. Where large numbers of boys are housed together under one roof they are more liable than others to epidemic influences, moral as well as physical, and from this point of view the two works at present under notice are of considerable importance. The *Code of Rules for the Prevention of Infectious Disease* has indeed been found so practically useful that it has now reached a fourth and enlarged edition, and, as a glance through its pages will show, has been kept well abreast of modern advance. The "quarantine periods" allotted to scarlatina and to small-pox have been reduced to ten days and sixteen days respectively, provided disinfection has been carried out at the beginning of the quarantine. The terms "rubella" and "morbilli" are employed as the official synonyms of the diseases known as German measles and measles respectively, and epidemic roseola has been retained as a convenient synonym for that common infections exanthem which frequently bears a close resemblance to rubella. Efficient vaccination has been insisted on in the *Code*, but influenza and tuberculosis have been ignored. This brochure will be of the greatest service to general practitioners as well as to medical officers of schools.

Dr. Hime's little essay is a well thought out and well expressed study of a difficult subject. He believes in moral suasion and not in expulsion as a remedy for the evil.

The Treatment of Disease by Physical Methods. By THOMAS STRETCH DOWSE, M.D. Aberd., F.R.C.P. Ed. Bristol: John Wright & Co. 1898.

THIS work by Dr. Stretch Dowse is practically a second edition of his *Lectures on Massage and Electricity in the Treatment of Disease.*

The importance of the treatment of disease by physical methods is becoming more and more recognised by the members of the medical profession, but the ordinary practitioner has still much to learn in this department of medicine.

The subject is one, however, which is difficult to acquire from a text-book. The descriptions given by Dr. Stretch Dowse of the manner of applying the various forms of massage are well and distinctly told, and yet, practical and clinical instruction is much more valuable for one in general practice than the perusal of so large a volume as that now published. The book contains a great amount of information which a busy practitioner has neither the time nor, perhaps, the inclination to wade through. On the other hand, to a layman the language employed is occasionally difficult to understand. Too many scientific terms are used, and the writer takes for granted that the lay reader knows more than he is likely to do. Instead of enlarging the first edition of the book, had Dr. Stretch Dowse condensed his writing into more of a practical treatise on the subject, in the style shown in the chapter on the Nauheim treatment, the book would have been of even greater value. Dr. Stretch

Dowse, however, is the recognised authority in this country on the subject of massage, and the reader will assuredly learn much that is practical and valuable from a careful perusal of the book.

Constipation and its Modern Treatment. By GEO. HERSCHELL, M.D.Lond. London: Henry J. Glaisher. 1899.

THIS excellent little work is a reprint of a paper which was read to the West Kent Medico-Chirurgical Society last winter, and subsequently appeared in the *Clinical Journal.* The author does not admit that some persons may have an evacuation of the rectum less frequently than once a day without any injury to their health. He considers first, the passage of the intestinal contents along the small bowel; second, their passage along the large bowel; and third, the act of defæcation. The causes of constipation and the methods of examination are next reviewed. Almost all the remainder of the book—amounting to more than two-thirds of the whole—is taken up with treatment. The recommendations are of a thoroughly practical kind, and have a sound scientific basis; they deserve to be carefully read and remembered by all medical practitioners.

Burdett's Official Nursing Directory, 1899. Compiled and Edited, with the assistance of a small Committee of Medical Men and Matrons, by SIR HENRY BURDETT, K.C.B. London: The Scientific Press, Limited.

THIS work is valuable for what it aims at and for what it accomplishes, and will maintain the high reputation already possessed by its distinguished editor. The editorial committee, though fully recognising that much yet remains to be done, claim that this issue of the *Directory* is a distinct advance upon its predecessors. We notice some omissions that surprise us in the names both of institutions and of nurses, but we can readily believe that these are largely due to the negligent manner in which requests for information are attended to. In addition to an index of institutions and an outline of the principal laws which affect nurses, the work gives information about nursing institutions of the United Kingdom in the following order:—General hospitals and poor law infirmaries, with 100 beds and over, which train practitioners; general hospitals with under 100 beds, special hospitals, and other institutions which train probationers; nursing institutions managed by a committee; private nursing agencies and homes not managed by a committee; Government departments, hospitals, and institutions where nurses are employed, but not trained; colonial, American, and foreign hospitals and nursing institutions; training school for attendants on the insane; provident funds, examining bodies, associations for the benefit of nurses, &c.; and last, but not least, Burdett's official directory of nurses.

The volume contains nearly 700 pages, and ought to be of interest and service to all who, whether of necessity or from choice, have to do with nurses or nursing.

English-French Dictionary of Medical Terms. By H. DE MÉRIC. London: Baillière, Tindall & Cox. 1899.

HAVING recently been engaged in work which necessitated frequent references to French medical terms, we have made much use of Mr. De Méric's work, and we can most cordially recommend it as a thoroughly reliable and comprehensive dictionary of English-French medical terms. For all the ordinary requirements of the physician or surgeon the book is amply sufficient, and the clearness of the type and the handy size of the volume render consultation of its pages easy and pleasant. Not only are medical terms included, but operations and methods of treatment are given under the authors' names. One very important point the author has kept in view—that is, the gender of the French substantives; and he has also given the feminine of those adjectives in which it differs from the masculine.

Kirkes' Handbook of Physiology. By W. D. HALLIBURTON, M.D., F.R.S. Fifteenth Edition, with upwards of 650 Illustrations, including some Coloured Plates. London: John Murray. 1899.

WE have great pleasure in calling attention to the fifteenth edition of this manual. *Kirkes' Handbook* has long been almost a classic in this country, although we daresay very little of the original text remains in the later editions. It is to be noted that the work is intended primarily for students, and that it includes histology as well as physiology proper. It is not yet three years since the last edition appeared, so that there was no great room for alterations; but recent discoveries have been incorporated in the present issue, and some minor improvements have been made. No doubt the work will continue to enjoy the prosperity it so well deserves.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

By WALTER K. HUNTER, M.D., B.Sc.

Lesions in Nerve-Cells produced by Hyperpyrexia.—Following Goldscheider, Flatau, and Lugaro, Marinesco has studied the effects of high temperatures on the ganglion cells of animals. The results he has presented to the Académie des Sciences. They are as follows:—

1. In animals kept in a stove for forty minutes at 47° C. (116·6° F.) the ganglion cells showed a peripheral chromatolysis. Sometimes only one part of the periphery is altered, sometimes the alteration is circular; but the elements round the nucleus were always unaltered. The processes of the cell had always lost their granules. This condition of the ganglion cell may be recovered from.
2. The nerve-cells of animals kept for forty-five to sixty minutes at 45° C. (113° F.) show that the chromatolytic change has advanced, the perinuclear granules being also affected. In staining these cells there is no differentiation of the Nissl bodies; but the whole plasma takes on a diffuse colouration, pale at the periphery and deeper in the parts round the nucleus.
3. In animals kept for more than an hour at a temperature less than 45° C., the cells stain deeply throughout. They present an opaque appearance, and there is no differentiation of the plasma granules.

From his observations, Marinesco concludes that high temperatures alter the minute structure of nerve-cells, due probably to a coagulation of the albumin they contain. But he does not think that anyone would be justified in saying that in the specific fevers the changes in the nerve-cells are entirely due to high temperature, for the toxins producing the fever probably also have an injurious action on the cell-plasma.—(Reported in *La France Médicale*, 25th November, 1898.)

A Case of Hereditary Tremor.—Dr. Cestau reports the following case in *Le Progrès Médical*, 7th January, 1899. The patient, a man aged 47, was one of three brothers, all of whom had been affected since infancy with a generalised tremor. The father, a painter, died at the age of 44 from lead-poisoning. He was an alcoholic, and was likewise the subject of a general tremor. The mother had "tremblings" and "nervous turns." She died at 66 from apoplexy. The two brothers also died of apoplexy.

The patient married at 20, and he has had eight children, seven of whom died of convulsions. The eighth is still alive, but he is nervous, impressionable, and has also a generalised tremor.

The patient first came under observation in December, 1894, and it was then found that, in addition to the tremor, he had a talipes equinus in both feet, and chronic nephritis, with mitral incompetence. The tremor, which consisted of small rapid oscillations, seemed to affect all the muscles of the body except those of the face. Its intensity varied from day to day, being always increased by fatigue or emotion. Unless, however, when very intense, it did not affect voluntary movement. It was not an intention tremor. It disappeared during sleep. There was no paralysis of any of the muscles of the arms, face, or trunk; but many of the muscles presented fibrillary twitchings. These twitchings were best seen in the deltoids and pectorals.

The talipes of the right foot was first noted when the patient was 13 years old. The talipes in the left was quite recent, having only appeared within the past twelve months. On examining the legs, it was found that the muscles in the calf of each limb were almost completely atrophied, and they felt on touching them like pieces of fibrous tissue. Movement at the ankles, either active or passive, was quite impossible owing to contraction and fixture of the tendo-Achilles. Movement at knee- and hip-joints were quite normal. Knee reflexes were likewise normal. Walking was rather painful, but there was no inco-ordination of any kind. There was no atrophy in any of the bones of the lower limbs. Sensation was quite normal. During the following two years the patient's condition remained much as described, except that the renal affection gradually got worse. The patient died suddenly in April, 1897, due to cerebral hæmorrhage.

On *post-mortem* examination the kidneys were found small and granular, the heart hypertrophied, and the aorta atheromatous. The brain on section was found to contain numerous hæmorrhages scattered throughout its substance. The medulla and cord were normal except that at the level of the first sacral vertebra the right anterior horn was diminished in size, and presented a certain degree of sclerosis. The ganglion cells seemed lessened in number and smaller than normal. None of them seems to have presented any chromatolytic change. The anterior roots at this level were thin and sclerosed. The left horn was also slightly sclerosed, and the cells less numerous and smaller than normal. The change corresponded to that found in infantile paralysis. Throughout the whole brain and spinal cord there was a certain amount of arterio-sclerosis.

A Case of Hysterical Deaf-mutism.—M. Antony reported this case to the Société Médicale des Hôpitaux. The patient, a soldier aged 23, five months after joining the regiment, complained of being unable to hear. Two days later he was unable to speak. On examining him he was found to have contraction of his fields of vision, to have lost the sense of smell and the pharyngeal reflex. There was also loss of the sense of touch in the right arm. On testing the sensibility of the tympanic membrane a slight attack of hysteria developed, followed by paresis of the right leg. Examination of the larynx and ears was otherwise negative except for the evidence of some old middle-ear disease. The patient could read and write, and his intelligence was quite acute. In explanation of this case Dr. Antony suggests that the patient's difficulty of hearing (due to middle-ear disease), and his difficulty in understanding the language spoken (he was a Breton), caused considerable mental disturbance, and that this brought about the abolition of hearing by auto-suggestion. The loss of speech would be suggested by the loss of hearing.—(*La France Médicale*, 3rd February, 1899.)

Child with Symptoms of Disseminated Sclerosis.—This case was shown at the Société Médicale des Hôpitaux by MM. Barbier and Mally. The patient was a boy 12 years old. His history showed him to have been a very healthy baby, born at full time, his birth being in all respects quite normal. He did not begin to walk till he was 3 years old, and even then his walking was very imperfect. As shown at the Society, the child presented many of the signs of disseminated sclerosis. His speech was jerky and monotonous, he had nystagmus, and his writing was tremulous. His walking was very unsteady and somewhat spastic in character. The knee-jerks were exaggerated, but there was no rigidity or paralysis in any of the muscles, and sensation all over the body was intact. Drs. Barbier and Mally considered these symptoms due to congenital syphilis producing disseminated patches of meningo-encephalitis, and the family history and an old-standing choroiditis supported that view.—(Reported in *La France Médicale*, 24th Feb., 1899.)

Case of Syringomyelia with Unusual Symptoms—Autopsy—Microscopic Examination. By Bullard and Thomas (*American Journal of Medical Sciences*, March, 1899).—A boy, previously healthy, when 3 years old became subject to attacks of headache of much severity, lasting an hour or more. These were soon accompanied by vomiting, and tended to increase in frequency and severity. This continued for three years, becoming gradually worse. Staggering now set in, also a double optic neuritis, which soon caused optic atrophy and almost total blindness. At times the pain and prostration were such that he would have to stay in bed for a few days or weeks. Then, having improved, he would be able to be up and about like a healthy child. Obesity became more and more marked; also, later, exophthalmos and an appearance suggesting myxœdema. These two latter symptoms, however, disappeared after a month. Amongst other temporary symptoms about the same time were paresis of certain eye muscles and nystagmus. There were no further changes in his symptoms until about ten months after the blindness began, when a sudden attack of paraplegia set in. This paraplegia remained permanent, and the lower extremities were drawn up and flexed. Incontinence of urine and fæces came on at the same time, and was also permanent. Bedsores developed, but later improved, and the child was in good general health at the time of death, which was due to an intercurrent attack of typhoid fever.

The autopsy revealed the following conditions:—

Lungs.—Small areas of broncho-pneumonia in lower lobe of right lung.

Intestines.—Six to eight ulcers in lower portion of ileum.

Brain.—Hydrocephalus, with dilatation of the iter, lateral and fourth ventricles.

Cord.—The cord was larger than normal. On section of medulla a cavity was seen in the grey matter, beginning in the median line, posterior to the central canal, at a point a little above the olivary bodies. No apparent connection with the central canal could be found. At a short distance below the pyramidal crossing, the cavity branched into two, occupying the two posterior horns. The right ended at the first cervical segment. The left continued increasing in size, till at the level of the fifth cervical segment, it occupied the position of the commissure and both posterior horns, and at the seventh there was only a thin strip of cord tissue about it. The cavity now decreased in size to the first dorsal vertebra, where it again branched into two, a central and a left lateral. This latter became the larger, till at the level of the seventh dorsal segment, the two were again united. Dividing once more a little lower down, the left—the larger—could be traced as far as the fourth lumbar vertebra.

Microscopic examination of the cord.—Sections of the medulla showed only distortion due to the cavity, without any apparent change of structure.

Sections at second cervical segment showed, in centre of anterior border of cavity, the epithelial cells of the central canal. There was well-marked atrophy of the border of the lateral portions of the cord. The posterior columns, with the exception of probably the posterior root zone, were degenerated. The grey matter of the cord, apart from its distortion, appeared practically normal.

Sections at the level of the seventh cervical segment showed in places that the border of the cavity was made up entirely of a dense meshwork of neuroglia fibres, with few nuclei. It was not lined with epithelium. The central canal could not be made out. The anterior horns, although distorted, were but slightly changed. The white substance of the cord, especially in the lateral and anterior pyramidal tracts and columns of Goll, was markedly degenerated. The membranes were slightly thickened.

Sections from about the level of the second dorsal segment showed the central canal to be normal, and the anterior horns but slightly affected. The posterior horns were nearly destroyed. There was marked degeneration of white matter, especially in pyramidal tracts, and a diffuse atrophy of the posterior tracts.

Sections from the lumbar enlargement showed the central canal and anterior horns normal. In the left posterior horn, the position of the cavity, there was a marked absence of the normal nerve fibres in the grey matter itself and of those passing out into the posterior columns. Atrophy of the pyramidal tracts and posterior columns was present. Membranes were slightly thickened.

Sections of the upper part of the sacral region showed a marked atrophy of the lateral pyramidal tracts.—W. L. W.

Frequency of Tuberculous Meat at Leipzig (*American Journal of Medical Sciences*, April, 1899).—According to the official returns of the Leipzig abbatoir for 1897, 36·40 per cent of the 27,191 cattle slaughtered were more or less tuberculous. Nearly half (48·09 per cent) of the bullocks and heifers gave evidence of the disease. Notwithstanding the large number of infected animals, only 2·08 per cent were totally condemned as food. Of those more or less infected, but passed as fit for food—that is, 97·92 per cent—all but a very small number were allowed to be sold without any restrictions after the removal of the organs affected. The balance, 5·73 per cent, were first sterilised, or sold as of second quality. Only 8 sheep out of 49,559 were tuberculous. Of the swine, 132,062 in number, 2·78 per cent, and of the calves, 67,961 in number, 0·20 per cent, were more or less diseased.—W. L. W.

The Clinical Features of Sporadic Trichinosis. By Osler (*American Journal of Medical Sciences*, March, 1899).—"Occurring in the form of an extensive outbreak following a *fest*, no disease is more readily recognised than trichinosis." The difficulty really arises in the sporadic cases, a very large proportion of which are overlooked. Professor Zenker was the first to recognise that trichinæ could produce a severe and fatal disease in man. This was in 1860, the patient being a girl, 20 years of age. Her illness was diagnosed as typhoid fever, but the autopsy revealed the muscles to be swarming with trichinæ. He also found living adult worms in the intestines, and in the flesh from which the girl had eaten, larval muscle-trichinæ. The report of this case is followed by an account of five others which came under Professor Osler's observation. "The clinical features of the disease may be grouped into those associated with the growth and development of the parasites in the intestines, and those which follow the migration of the young brood into the muscles."

Gastro-intestinal symptoms.—Several days elapse after ingestion before the larval muscle-trichinæ reach their sexual maturity, and two or three days before the female gives birth to the embryos. The chief symptoms are headache, nausea, vomiting, and diarrhœa, with colicky pains in the abdomen. In none of the five cases were these symptoms at all severe.

Symptoms of invasion.—The most misleading of these is fever. This, with the accompanying phenomena of rapid pulse, headache, stupor, and general symptoms of severe illness, suggests to the physician the diagnosis of typhoid fever. The temperature in Case I resembled that of mild typhoid; in Case II it had the intermittent characters typical of malaria; Cases III and IV resembled mild febricula, while Case V was very suggestive of typhoid. Epistaxis was present in two, and enlargement of the spleen in three cases. In all Widal's reaction was absent, whilst, on the other hand, the diazo-reaction was present.

The principal diagnostic features were:—first, muscular pains and swellings, and second, œdema, especially of the eyelids and over the eyebrows. As these are already well known they will not be further dwelt upon, but a third phenomenon, namely, marked leucocytosis and eosinophilia, has not, so far as is known, received any special attention up to the present.

The following were the numbers of leucocytes per cmm. on the five cases in order:—17,000, 13,000, 34,000, 18,000, and 14,000 to 17,000. The percentages of eosinophiles in the corresponding cases were—37, 44, 45 to 50, 48, and 22 to 36.

"There now remains the question whether in other forms of acute infectious myositis the eosinophiles are greatly increased or no." If eosinophilia does occur, then the final decision will rest with the examination of a portion of suspected muscle. By the use of cocaine, a piece of muscle, sufficiently large, can easily be removed with an ordinary scalpel. If only a small piece is removed, it is better to harden it and make sections of the whole, as in this way there is no possibility of overlooking a single trichina.—W. L. W.

Case of Cheiromegaly in Syringomyelia. By Lunz (*Deut. Med. Woch.*, 1898, No. 41; quoted in *American Journal of Medical Sciences*, April, 1899).—A woman, aged 30 years, with a negative family history, began to have epileptic attacks at 16. Three years ago pains began in the right wrist and hand, shooting out to both sides. At the same time there were chilly sensations, and the patient frequently burnt her hand in trying to get it warm. About the same time the right hand began to increase in size. For a year there have been pains and a feeling of chilliness in the left arm, back, and breast. The right arm, hand, and fingers are now considerably larger in all parts than the left, the increase being partly due to the soft parts and partly to the bone, as confirmed by the *x* rays. The tactile sensibility is normal, as is also the sense of position, and pressure, and the muscular sense, but there is complete analgesia and loss of temperature sense (ice and 40° C. cannot be distinguished) in the neck, back of the head and shoulders, the back to the ninth dorsal vertebra, the chest to the lower end of the sternum, and both upper extremities. There is no paralysis in the arms, but the strength is reduced in both, especially the right. The reflexes are lowered in the upper extremities; the knee-jerk increased, especially the right. Faradic reaction of muscles and nerves is lowered in the upper extremities. The absense of muscular atrophy is interesting. The changes in the bone, as observed by the *x* rays, are like those described by Schlesinger in acromegaly. —W. L. W.

DISEASES OF CHILDREN.

By JOHN LINDSAY STEVEN, M.D.

The Jacobi Ward for Clinical Instruction.—The recent opening of this ward at Roosevelt Hospital was an important event in the history of pediatrics. It is, we believe, the first ward in this country [United States] designed for the clinical teaching of pediatrics to students of medicine. It is the result of a gift of $50,000 by some person whose name is not announced to the public.

The ward forms part of a new pavilion erected in the grounds of Roosevelt Hospital. It is connected with both the hospital and the Syms operating pavilion. The terms of the gift provide that Columbia University shall name the clinical teachers. Dr. Jacobi is now holding clinics in the ward, in addition to his regular clinics in the College of Physicians and Surgeons. The system of instruction is bedside teaching to small sections from the college classes. Such teaching is essentially different from that given in the usual amphitheatre clinic or dispensary class. It has long been regarded as one of the most important factors in medical education in other departments. It is satisfactory to know that pediatrics is at last able to boast of at least one such ward in this country. The opening of the ward, designed as it is primarily for bedside instruction of medical students, marks an epoch in the teaching of the diseases of children. It seems very appropriate that the first ward designed for this purpose should bear the name of the man who has inaugurated so many advances in the teaching and practice of pediatrics. It is a most fitting tribute to his life of devotion to that department of medicine.

The wisdom of the person endowing this ward, whose name we do not know, is certainly deserving of more than passing mention. The first and primary object of a hospital should be to afford the best care of the patient which it is possible to give. This aim, we have before had occasion to say, should never be sacrificed to any other consideration. A second and scarcely less important object, and in no way incompatible with the first, should be to render the knowledge constantly gained in hospital wards available for the common good, and to spread the humane influences of the hospital far beyond its walls. Every hospital should therefore be a teaching institution so far as it is possible without detriment to its patients. The advantages of instruction in its wards should not be limited to a few internes. When these principles are adopted and practised broadly and humanely, the good wrought within the hospital structure, be it ever so great, may be small compared with the good which those instructed in its wards accomplish year after year, far and wide through the community.

The influence for good of a teaching hospital is beyond computation, and the individual who endows a hospital or a ward of that character shows great wisdom, which, unfortunately, does not always accompany generosity and philanthropy.—(*Archives of Pediatrics*, March, 1899.)

The Teaching and Practice of Pediatrics. A. Jacobi (*Philadelphia Medical Journal*, 1898, vol. ii, No. 25).—Of the deaths of infants that take place during the first year, 25 per cent occur in the first three months. Many of the causes of this waste of life are beyond medical aid. Seasons and climates, race, city or country, soil and dwelling, precocious marriages, financial circumstances, the prices of foods and dress goods, the prevalence of endemics and epidemics, of alcoholism and syphilis, the ignorance of the people and of medical men, are amongst the most influential causes of excessive infant mortality. Many of them could be prevented by social improvements, which have to go beyond the puny efforts of floating hospitals and fresh-air piers. Still, even they prove that the public conscience and the sense of mutual responsibility are awakening, and it is to be hoped that our people will rise to the recognition of its own perishing reconcentrados, young and old.

The English Infant Life Protection Act of 1872, and the French *loi protective des enfants* of 1874, are amongst the first instalments of the public debt paid to infant life. Foundling hospitals and asylums and special hospitals have partially missed their aims for no other reason than because the laws of infant life, health, and mortality were, and still are, but imperfectly understood. It was mainly the frontier territory of the pathology of the very young that was a *terra incognita*. Our ignorance was the cause of indolence. It became an axiom that nothing could be done with and for small infants. It has taken a long time for us to be taught that no class of our population and of our patients is more endangered by waiting idleness—we prefer to call it expectancy—than the very young; it will still take a long time before the physician who is thoroughly conversant with the physiology and pathology of infancy will be officially recognised as a peer amongst the teachers of medicine, and pedology as one of the most desirable facts of medical science.

The first special clinic in pediatrics, for which a single weekly hour was considered all that could be spared, was established by the author in the New York Medical College in 1886, and it died with the college. Since that time similar clinics have gradually been established all over the States; but pediatrics is not yet given a leading part. In most colleges the attendance upon children's clinics is not obligatory this very day. Few professorships exist for pediatrics; and they are mostly nominal. The neglect shown it by the official faculties is readily taken by students as their guidance, and the results are unavoidable. Infants cannot complain, and they cannot vote; even less so than the privates in an army. The old principle, "*infans nondum homo*"—an infant is not quite a human being—has not died out yet. That the embryo and fœtus are of still less account is only too true. Genuine humanitarianism has not yet risen to the dignified place held even by the unborn in the teaching of at least two religions—the Jewish and the Roman Catholic. The author holds that teaching pedology as an obligatory study, mainly at the bedside in children's hospitals, and raising it to the dignity of full chairs in our leading institutions, is amongst the most valuable means of reducing infant mortality.

As the principal mortality of the first year is due to disorders of the digestive, and that of the following period to those of the respiratory organs, the preventive measures to be taken appear to be self-evident. Infant-feeding has been made relatively safe by the methods calculated to destroy pathogenous germs. By rendering infant food germ-free, a number of diseases and deaths are prevented—mainly, the army of infectious intestinal disorders, with consecutive renal, meningeal, encephalic, and respiratory troubles, not to speak of the chronic marasmus that swells the death-lists often without an appreciable anatomical cause.

Beyond the means of prevention furnished by bacteriology, we have not advanced much these scores of years. The same questions belonging to the chemistry of the milk and to the composition of infant food, are answered differently in different quarters with equal assurance. A famous author, in spite of the physiological fact known these thirty years that there is saliva and pancreatic juice in the infant economy, has only lately been converted to a faith in farinaceous foods, and is experimenting with other than milk sugar; and he comes to the conclusion that the feeding on woman's milk may be carried on too long. Many begin also to find out that cow's milk may be done to death by inconsiderate cooking, and that the latter is not rendered more sacred or more wholesome by calling it sterilisation.

The belief that infants and children require much food is correct. They require material not only for reproduction, but also for increase. In order to gain 25 grams daily during the first half year, they require daily from 8 to 10 grams of proteid, 2·6 of which are demanded in the interest of growth. But over-alimentation during a normal condition has its serious drawbacks, which should be prevented—dilatation of the stomach and diarrhœal diseases, rickets, adiposity, diseases of the skin, convulsions, biliary and renal colic, and myasthenia and myalgia depending upon the accumulation of phosphates and lactates in the muscular tissues. Over-alimentation may also lead to atrophy in different ways, so that the diagnostician of a case of atrophy has not to look for starvation in intestinal disease only.—(*Archives of Pediatrics*, March, 1899.)

Eggs of a House-Fly in the Stools of an Infant. Michael Cohn (*Deutsche Medic. Wochenschr.*, 1898, xxiv, 191).—In the extraordinary distribution of the house-fly in our apartments during the hot season of the year, and the preference which these insects have to deposit their eggs upon our food, these eggs, without a doubt, not infrequently find their way through the food consumed into the gastro-intestinal canal of man. Here, in all probability, they nearly always perish under normal conditions after a short sojourn, from the effect of the digestive juices, and are absorbed, and there is, in all probability, necessarily a certain functional disturbance of the digestive organs, if they retain their power of development in this position and develop into larva. Should the latter occur, the young maggots, which possess lively movement and the faculty to fasten themselves on to the mucous membrane by means of their booklets, will readily place the former in a condition of irritation, bringing on vomiting and diarrhœa, under which circumstances the living insects will be expelled outward.

Cases of this kind have been frequently described, and there is also sufficient proof that occasionally these larvæ of the common fly have given rise to long invalidism, under the picture of a chronic enteritis pseudo-membranacea.

There is, however, a third possibility in the disposition of fly-eggs which have been swallowed; they may escape absorption in the human economy, but still not finish their transformation into maggots, rather be again evacuated as eggs, be it that their presence in the gastro-intestinal canal was too short for their full development, or that they met, even when longer present, with favourable conditions of development here, which retarded their further development or put an end to it altogether. I was not able to find this fact corroborated in literature, for in the first instance, the exceedingly small eggs in themselves, even if present in large quantities, do not cause any marked symptoms, so as to lead to a more careful examination of the dejecta; on the other hand, these minute formations may be very easily overlooked.

The following history shows, however, that this is not always the case:—

A woman came to Cohn in haste one evening with the story that her 3 months' old baby was already suffering with "worms." The history disclosed the following facts: The child was fed during the first two months of its existence with Swiss milk, and later on with cow's milk, by means of the bottle and the common rubber nipple. The stool, which had formerly been firm, became more liquid and more frequent soon after feeding with cow's milk had been begun; at last it became slimy and foamy fœtid, occurring five or six times during the day and three or four times at night. The child also brought up cheesy masses, but did not really vomit. Latterly it had also become very restless, frequently crying out suddenly, bent itself double, and became pale in the face. These painful paroxysms usually lasted about five minutes. On account of these symptoms it had been deprived of its milk for twenty-four hours, a flour pap being substituted.

A few days previously the mother had made a peculiar discovery; when she looked at the jacket of the child, which had been discarded three days previously and placed along with other soiled linen in a dry tub, she discovered a batch of living "worms" exactly on that spot where the vomited cheesy masses were present, and where yellowish spots had also formed, which could not be removed by energetic washing. Two days later the mother, with intent, again laid aside one of these jackets soiled with the cheesy particles, to see what would become of them; when she again looked at it, it contained numerous living round "worms," a few of which she brought with her in a piece of paper. Furthermore, she perceived the afternoon before, when she was drying the child, some peculiar white "lumps" in the diaper lying together in three little heaps, and in part intimately mixed with some fæces; these she also brought with her, they having in the meantime broken down to small white scales.

Examination of the child itself resulted perfectly negative. The last stool, too, did not contain any abnormal ingredients.

Treatment.—Continuation of the starchy food (the stools had become less frequent since the previous day); if constipation occurred, to administer a clysma. On the following morning the mother again appeared and told the following facts:—

On the previous day the child was quiet during the day, neither vomiting nor having a passage; in the afternoon, however, two of the above mentioned "scales" were present in the sputum (which had increased for some time).

In the evening, towards nine o'clock, the child became restless; on investigation the mother discovered in the neighbourhood of the anus a large number of these scales. She then gave the child a clysma, and caught the water, which contained only a large number (about 1,000) of these white conformations, without any admixture of fæces. The patient at once quieted down, and had a natural stool of a pappy consistency a few hours later.

Nothing abnormal was found further in the child; the symptoms of indigestion disappeared, as also the restlessness; the child thrived on cow's milk and developed in a normal manner.

As regards the conformations which the mother brought to Cohn at first, they were of two varieties:—

1. The so-called "worms" were recognised by simple inspection already as the larvæ of flies. The ten specimens, with the exception of two, were already dead and pretty dry. Two of them, still somewhat fresh, were club-shaped, white, round, worm-shaped, about 8 mm. long; the more pointed extremity presented the black mouth-hooklets, the other two dark rings.

2. The formations found in the diapers consisted of white, small rod-shaped scales, partly isolated, partly clumped together in heaplets (altogether amounting to about 140). Their longitudinal measurement was about 1·5 mm., their breadth about 0·3 mm. In their dried up condition they presented a polish similar to mother of pearl.

Microscopically they were recognised as the eggs of the common house-fly, from which the larvæ were also derived.

In what manner did these eggs enter the digestive organs of the child? The usual manner, by way of the food, can hardly come under consideration in this case, and that for the following reasons:—

The female fly, as a rule, deposits the eggs in little heaps. The child took, exclusively, food from the nursing bottle; even should the eggs have gained entrance to the milk, it would seem impossible for them to pass through the narrow orifice of the nipple. It is much more likely that the flies deposited their eggs on the lips of the sleeping child, which were soiled with sputum or vomited residuum of milk, at times when it was not watched, and which were then swallowed. At any rate, if we take into account the number of eggs voided, more than one fly must have deposited her eggs, as one fly only deposits about seventy eggs.

It is hardly likely that the dyspepsia, from which the child suffered for several weeks, was due to the eggs, as may be seen by the fact that the latter in that case must have been present for weeks in the stomach and intestines.

The cessation of the dyspeptic symptoms coincident with the voiding of the eggs may be easily explained by the change in diet, which, as we well know, is frequently sufficient to remove digestive disturbances. The deposition of the eggs in the digestive tract was, therefore, a rather harmless occurrence, and only by chance occurred together with the dyspepsia; on the other hand, the latter might be considered a hindrance to the digestion and absorption of the swallowed eggs.—(*Pediatrics*, 15th March, 1899.)

PATHOLOGY AND BACTERIOLOGY.

Micrococcus Melitensis (of Bruce) (*Journal of Pathology and Bacteriology*, December, 1898).—Herbert E. Durham finds the organism of Malta, Mediterranean, or undulant fever to be a minute coccus, single or paired; growth occurs in broth or agar media at 37°. At 18° to 20° a bacillary form is obtained, reverting in subcultivations to the coccus form. By means of serial intracerebral injections fatal infection of rabbits and guinea-pigs has been obtained. *Cocci observed in the urine* for long periods after inoculation. Agglutinating power present in serum, varying with strength of injection.—G. H. E.

Anæmias of Malarial Cachexia and Ankylostomiasis.—Rogers differentiates the anæmias of malarial cachexia and ankylostomiasis. In malarial form, red corpuscles and hæmoglobin equally reduced. White corpuscles greatly reduced. Specific gravity of the blood slightly reduced. In ankylostomiasis, hæmoglobin reduced more than twice as much as red corpuscles. The white corpuscles, although reduced absolutely, are increased relatively. Specific gravity of the blood markedly reduced. The explanation he offers is that in malaria the hæmoglobin of destroyed corpuscles is stored in liver, spleen, &c., and so the supply is kept up, while it is drained from the intestine in ankylostomiasis, and reserve is not maintained. Reduction of leucocytes is marked in anæmia, as they have to fight the plasmodium. The greater loss of specific gravity in ankylostomiasis is due to loss of plasma inadequately compensated for by weakened digestion.—(*Journal of Pathology and Bacteriology*, December, 1898.)—G. H. E.

Chloride Metabolism, chiefly in its relation to Pneumonia.—Robert Hutchison investigates chloride metabolism chiefly in its relation to pneumonia. The chlorides are in some cases completely absent during whole or part of course of attack. The diminution bears no relation to height of fever, or to extent of lung involved. Epicritical excretion occurs about two days after crisis, and is comparable to, but not coincident with, the epicritical excretion of urea. It is not related to intake of chlorides during the illness. Diminution of chlorides is of negative value in differential diagnosis of pneumonia from other acute fevers, but pneumonia is the only pulmonary condition associated with diminution. Behaviour of chlorides of no prognostic value. Neither sputum nor exudate are important vehicles of chloride excretion. Diminution is *not* due to functional impairment of kidney. The retained chlorides do not accumulate in the blood, but in the fixed tissues and the organs generally. Why retained at all in pneumonia is not explained.—(*Journal of Pathology and Bacteriology*, December, 1898.)—G. H. E.

Tubal Pregnancies, with regard to Wall of Tube.—Griffiths describes appearances of four tubal pregnancies, with regard to wall of tube. At placental site, wall is represented by a thin, almost non-vascular, fibrous membrane. Elsewhere the wall is stretched, and liable to show chronic inflammatory change. Villi are stunted, and, after a time, almost functionless. No decidual formation.—(*Journal of Pathology and Bacteriology*, December, 1898.)—G. H. E.

Pseudo-Lupus Vulgaris caused by a Blastomyces. By T. C. Gilchrist and W. R. Stokes (*Journal of Experimental Medicine*, 1898).—This paper affords much material for consideration. It contains the history of a case which at first sight seemed to be one of lupus vulgaris. On examination of the lesions in this case a blastomyces was found, which, on cultivation, yielded a mycelial growth; and which, on inoculation of numerous and various animals, was followed by the development of pseudo-abscesses and pseudo-tubercles, mostly in the lungs, the lesions produced always containing the parasite. The authors have named the disease blastomycetic dermatitis. They recommend careful investigation of all tubercular affections of the skin by soaking sections in liquor potassæ. The paper reflects great credit upon its authors.—J. B.

The Fate of Giant Cells in Healing Tuberculous Tissue. By Ludvig Hektoen, M.D. (*Journal of Experimental Medicine*, 1898).—The writer of this paper has carefully investigated the histological appearances in tubercular meningitis. He inclines to Metchnikoff's views that giant cells are phagocytic; and believes that when the giant cells have accomplished their work that they, to a large extent, undergo segmentation, thereby splitting up into uninuclear cells.—J. B.

Books, Pamphlets, &c., Received.

The Middlesex Hospital Reports for the Year 1897. London: H. K. Lewis. 1898. (2s. 6d. net.)

Hygiene and Public Health, by B. Arthur Whitelegge, M.D. With 25 Illustrations. Seventh Thousand. London: Cassell & Co., Limited. 1899. (7s. 6d.)

Some Aspects of the Mental Discipline associated with the Study of Medicine: An Address delivered to the Queen Margaret College Medical Club, by C. O. Hawthorne, M.B. London: J. & A. Churchill. 1899. (1s.)

The Hygiene of the Mouth: A Guide to the Prevention and Control of Dental Diseases, by R. Denison Pedley, F.R.C.S. Ed., L.D.S. Eng. With numerous Illustrations. London: J. P. Segg & Co. (2s. 6d.)

The Nurse's Clinical Case Book, with Daily and Four-hourly Temperature Charts. London: John Bale, Sons & Danielsson, Limited. (6d. net.)

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M.D. Vol. I (March, 1899). London: Henry Kimpton. 1899. (12s. 6d. net.)

Animal Simples, approved for Modern Uses of Cure, by W. T. Fernie, M.D. Bristol: John Wright & Co. 1899. (6s.)

Materia Medica and Therapeutics: An Introduction to the rational Treatment of Disease, by J. Mitchell Bruce, M.A., M.D. Thirty-eighth Thousand. London: Cassell & Co., Limited. 1899. (7s. 6d.)

Clinical Lectures on Neurasthenia, by Thomas D. Savill, M.D. London: Henry J. Glaisher. 1899. (5s. net.)

A Manual of Surgical Treatment, by W. Watson Cheyne, M.B., F.R.C.S., F.R.S., and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S. In Six Parts. Part I: Inflammation and Its Sequelæ — Anæsthetics — Wounds — Bacterial Diseases — Syphilis — Tumours. London: Longmans, Green & Co. 1899. (10s. 6d.)

Golden Rules of Medical Practice, by Arthur Henry Evans, M.D., B.S. (Lond.), F.R.C.S. Eng. Bristol: John Wright & Co. 1899. (1s.)

The Exploration of the Urethra and Bladder, by M. Tuchmann, M.R.C.S. Eng., M.D. Würzburg. With 26 Illustrations. London: H. K. Lewis. 1899. (5s.)

Transactions of the American Dermatological Association (Twenty-second Annual Meeting, 1898): Official Report of the Proceedings, by John T. Bowen, M.D., Secretary. Concord, N. H.: The Rumford Press. 1899.

Schoolboys' Special Immorality, by Maurice Hime, M.A., LL.D. London: J. & A. Churchill. 1899. (6d. net.)

Examination Questions in Practice of Medicine, with Answers. Part III: Fevers, with Temperature Charts of Typical Cases. Edinburgh: E. & S. Livingstone. (1s. net.)

A Class Book of (Elementary) Practical Physiology, including Histology, Chemical and Experimental Physiology, by De Burgh Birch, M.D., C.M. London: J. & A. Churchill. 1899. (6s. 6d.)

Die Krankheiten der Mundhöhle des Rachens und des Kehlkopfes mit Einschluss der Untersuchungs und Behandlungs-methoden, von Dr. Albert Rosenberg in Berlin. Zweite Auflage. Berlin: Verlag von S. Karger. 1899.

The Serum Diagnosis of Disease, by Richard C. Cabot, M.D. London: Longmans, Green & Co. 1899. (7s. 6d.)

Chemical and Microscopical Aids to Clinical Diagnosis, by Carstairs C. Douglas, M.D., B.Sc. Illustrated. Glasgow: James Maclehose & Sons. 1899.

Lord Lister and Surgery, by Robert Turner, M.A., M D., F.R.C.S. Edin. London: Henry J. Glaisher. 1899. (1s. net.)

Medical and Surgical Reports of the Boston City Hospital. Tenth Series. Edited by H. L. Burrell, M.D., W. T. Councilman, M.D., and C. F. Withington, M.D. Boston: Published by the Trustees. 1899.

The Murmurs of Mitral Disease, by Edward Mansfield Brockbank, M.D., M.R.C.P. With 5 Illustrations. Edinburgh: Young J. Pentland. 1899.

Anatomy of the Brain and Spinal Cord, by J. Ryland Whitaker, B.A., M.B. Sixth Thousand. Edinburgh: E. & S. Livingstone. 1899. (5s. net.)

Bradshaw's Dictionary of Bathing Places, Health Resorts, &c. London: Kegan Paul, Trench, Trübner & Co. 1899. (2s. 6d.)

The Anatomy of the Central Nervous System of Man and of Vertebrates in General, by Professor Ludwig Edinger, M.D.; Translated from the Fifth German Edition by Winfield S. Hall, Ph.D., M.D., assisted by Philo Leon Holland, M.D., and Edward P. Carlton, B.S. Illustrated with 258 Engravings. Philadelphia: The F. A. Davis Company. 1899.

An Epitome of the History of Medicine, by Roswell Park, A.M., M.D Second Edition. Illustrated with Portraits and other Engravings. Philadelphia: The F. A. Davis Company. 1899. (2 dols. net.)

Anæmia and some of the Diseases of the Blood-forming Organs and Ductless Glands, by Byrom Bramwell, M.D., F.R.C.P. Ed., F.R.S. Ed. Edinburgh: Oliver & Boyd. 1899. (12s. 6d.)

Aseptic Duties of a Surgical Nurse or Dresser, by John O'Conor, M.A., M.D. London: H. K. Lewis. 1899.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 20TH MAY, 1899.

	WEEK ENDING			
	April 29.	May 6.	May 13.	May 20.
Mean temperature, . .	50·3°	43·4°	49·8°	49·3°
Mean range of temperature between day and night, .	17·0°	19·0°	17·5°	13·5°
Number of days on which rain fell, ...	4	2	4	7
Amount of rainfall, . ins.	0·76	0·28	0·62	3·19
Deaths registered, . . .	322	284	270	290
Death-rates, ...	22·8	21·1	19·1	20·5
Zymotic death-rates, . .	3·3	1·8	2·1	2·2
Pulmonary death-rates, .	6·4	6·0	5·8	5·9
DEATHS—				
Under 1 year, . . .	75	58	67	66
60 years and upwards, .	70	55	45	64
DEATHS FROM—				
Small-pox, ...	...	...	...	...
Measles, ...	21	14	20	17
Scarlet fever, ...	3	2	...	5
Diphtheria, ...	3	2	3	2
Whooping-cough, . .	11	5	2	2
Fever, ...	4	1	2	1
Diarrhœa, ...	5	2	3	4
Croup and laryngitis, .	4	1	2	2
Bronchitis, pneumonia, and pleurisy, ...	59	61	48	61
CASES REPORTED—				
Small-pox, ...	...	...	...	...
Diphtheria and membranous croup, ...	9	6	6	7
Erysipelas, ...	19	13	26	12
Scarlet fever, ...	78	56	79	70
Typhus fever, ...	1	...	1	...
Enteric fever, ...	9	18	8	11
Continued fever, . . .	...	...	...	...
Puerperal fever, . . .	2	...	4	1
Measles,*	228	255	314	246

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *25th May, 1899.*

INDEX.

ABDOMINAL surgery, cases of. J. O'Conor, 185.
  tumours, difficulty of diagnosis. W. L. Reid, 299.
Abortion, complete tubal. J. Edgar, 302.
ABSTRACTS FROM CURRENT MEDICAL LITERATURE—
    Diseases of children. J. Lindsay Steven, 462.
    Diseases of the ear. J. Walker Downie, 157, 397.
    Diseases of the skin. W. R. Jack, 155.
    Diseases of the throat. J. Macintyre, 158.
    Gynæcology and obstetrics. E. H. L. Oliphant, 396.
    Medicine. W. K. Hunter, 77, 458; W. R. Jack, 236.
    Nervous diseases and insanity. R. S. Stewart, 74, 315.
    Pathology and bacteriology, 466.
    Surgery. T. W. Jenkins, 153, 317.
Adenoids, anæsthesia in removal of. 158.
Africa, West, fevers of. J. Ritchie, 328.
Amputations. W. J. Fleming, 241, 291.
Anæmias of malaria and ankylostomiasis, 467.
ANDERSON, T. M'C.—Some observations on the tuberculin treatment, 321.
Anencephalous fœtus. J. Dunlop, 306.
Aneurysm of aorta. G. S. Middleton, 258.
Ankylostomiasis, 467.
Antistreptococcic serum, 318.
Aorta, aneurysm of. G. S. Middleton, 258.
Appendicitis, acute, treated in early stages by saline aperients. A. E. Maylard, 161.
Arsenic, action on blood and bone-marrow. R. Stockman, 373.
Arthritis of cerebro-spinal fever, 318.
  rheumatoid. G. S. Middleton, 257.
Asthma, sputum in, 77.
Atrophy of liver, acute yellow. C. Douglas, 381.

BACK, pain in. W. F. Somerville, 121.
BATTERSBY, J.—An unusual case of traumatic separation of epiphyses, 46.
Black, Dr. D. C., obituary notice, 53.
Blastomyces in pseudo-lupus, 467.
Bleeders, family of, 78.
Blood, action of arsenic on. R. Stockman, 373.
Blood in epilepsy, toxicity of, 316.
Boil as cause of pyæmia. J. M'G. Robertson and J. S. M'Kendrick, 291.
Books, &c., received, 79, 159, 238, 319, 399, 468.
BOYD, JAS.—Clinical case of Transvaal malaria, 102.
Brain, multiple tubercular tumours of. J. Lindsay Steven, 125, 200.
British Medical Association: Glasgow and West of Scotland Branch, 362.
BUCHANAN, R. M.—Report on the bacteriological examination of Paisley water in connection with the recent epidemic of enteric fever in that town, 48.
Buphthalmos. T. S. Meighan, 136.
Burns, Dr. John, 54.

CANCER of tonsil. J. G. Connal, 120.
Carcinoma of orbit. T. S. Meighan, 134.
Cerebellar abscess from infection through labyrinth, 398.
  abscess successfully treated by operation. J. H. Nicoll, 56.
Cerebro-spinal fever, arthritis of, 318.
Charcot's joint disease. J. Love, 421.
Cheiromegaly in syringomyelia, 462.
Chloride metabolism in pneumonia, 467.
Choroid, conglomerate tubercle of. T. S. Meighan, 62.
  plexus of lateral ventricle, 76.
Cirrhosis of liver in a child 6 years old. W. K. Hunter and C. Workman, 81, 127, 204.
Coats, Professor. List of writings, 267.
  memorial to, 195.
  obituary notice, 108.
Cœliotomy, vaginal. J. Edgar, 178, 290.
Colo-enterostomy for tumour of colon. D. Newman, 430.
Colon, tumour of, colo-enterostomy. D. Newman, 430.
Congenital heart disease, heart from case. D. Glen, 413, 428.
  malformation of heart. R. B. Ness, 358, 377.
  malformation of heart. R. M. Buchanan, 428.
Congress of gynæcology and obstetrics, 286.
  otology, 287.
Constitution, lymphatic. J. H. Pringle, 351.
Cortex, nerve cells of, 75.
CURRENT TOPICS—
    Presentation of portrait of Dr. John Burns to the Corporation, 54.
    Appointment for Dr. Hawthorne, 54.
    Disinfection for plague, 54.
    Zeitschrift für Augenheilkunde, 55.
    New drugs, preparations, &c., 55.
    Glasgow and West of Scotland Medical Association (*Glasgow Medical Journal*), 118.
    Plague cases and deaths in Bombay, 119.
    Craig Colony prize for original research in epilepsy, 119.
    Memorial to Professor Coats, M.D., 195.
    Army Medical Department, 196.
    "Dr. Therne," by H. Rider Haggard, 197.

Current Topics (*continued*)—
  Royal College of Surgeons of Edinburgh, 197.
  Tuberculosis in dairy stock, 198.
  Third International congress of gynæcology and obstetrics, 286.
  Sixth international otological congress, 287.
  British Medical Association: Glasgow and West of Scotland Branch, 362.
  Dr. Louis Foucart, 363.
  Dr. George R. Mather memorial, 417.
  Hunterian museum, University, 418.
  Glasgow Obstetrical and Gynæcological Society, 419.
  Glasgow Eastern Medical Society, 419.
  The Lenval prize, 419.
  Erythrol tetranitrate: caution, 420.
  Hydrochloride of heroin, 420.
Cyst, dermoid, of penis. G. H. Edington, 1.
  of intestinal wall. A E. Maylard, 213.
Cystic kidneys. C. Workman, 379.
Cysts from the neck. T. K. Dalziel, 62.

Dairy stock, tuberculosis in, 198.
Deaf-mutes, demonstration of education of. J. K. Love and W. H. Addison, 308.
Deaf-mutism, hysterical, 459.
Deafness, chronic catarrhal, 157.
  simulated, tested by phonendoscope, 393.
Demonstration of cases. G. S. Middleton, 252, 307.
Dermatitis herpetiformis. D. Couper, 306.
Dermoid cyst of penis. G. H. Edington, 1.
Development, defective, of limbs. J. Lindsay, 274, 297.
Diabetes with tabes. J. Love, 421.
Diazo-reaction, clinical significance of, 237.
Diverticulum of sigmoid. A. E. Maylard, 213.
Douglas, C.—Some results of gastric analysis in stomach disease, with cases, 92.
Downie, W.—Frontal sinusitis, with several illustrative cases, 341.
Drain, suprapubic. H. Rutherfurd, 134.
"Dr. Therne," by H. Rider Haggard, 197.
Duodenum, perforating ulcer of. J. Lindsay Steven, 87, 200.

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  Couper, D.—Dermatitis herpetiformis, 306.
  Dunlop, J.—Anencephalous fœtus, 306.
  Brown, W. L.—Influence of Scottish medical men on literature, 307.
  Middleton, G. S.—Demonstration, 307.
  Patrick, J.—Fœtal monster, 307.
  Love, J. K., and Addison, W. H.—Education of deaf-mutes, 308.
  Ritchie, J.—The fevers of West Africa: their nature, treatment, and prevention, 441.
  Patrick, J.—Case of Ménière's disease, 442.
    case of thrombosis of sigmoid sinus, 443.
  Jardine, R.—Intercellular saline injections in eclampsia, with notes of seven cases, 445.
Eclampsia, saline injections in. R. Jardine, 169, 297, 445.
Edgar, J.—Vaginal cœliotomy, 178.
Edington, G. H.—Case of dermoid cyst of the penis, of tubular form, 1.
Enteric fever in Paisley and bacteriology of water supply. R. M. Buchanan, 48.
Enteric ulcer with perforation, successful operation for. T. K. Dalziel, 423.
Epilepsy, prize for research in, 119.
  resection of sympathetic ganglia for, 318.
  toxicity of blood in, 316.
  treatment of, 76.
Epileptics, characters of families of, 316.
Epiphyses, traumatic separation of. J. Battersby, 46.
Erythrol tetranitrate: caution, 420.
Erythromelalgia, morbid anatomy of, 238.
Endocarditis, infective, following pneumonia. J. Carslaw, 371.
  malignant. S. Gemmell, 365.
    W. Scobie, 364.
Eustachian tube, treatment of, 157.
Exosplenopexy, 154.
Exulceratio simplex ventriculi. J. Lindsay Steven, 5, 124.
Eye, congenital malformation of. Thomas S. Meighan, 138.
  symptoms of early exophthalmic goitre. J. Hinshelwood, 84, 120.

Facial nerve in hemiplegia, 316.
Femur, extra-capsular fracture, operation. R. H. Parry, 427.
Fevers of West Africa. J. Ritchie, 328, 441.
Fleming, W. J.—Amputations, 241.
Fæces of infant, fly's eggs in, 464.
Fœtal monster. J. Patrick, 307.
Forfarshire Medical Association, 69, 309, 389.
Foucart, Dr. Louis, obituary notice, 363.
Fracture of skull, intra-uterine, 397.
Fresh specimens. J. Edgar, 214, 288, 293.
  J. H. Nicoll, 428.
  J. M. M'Call, 429.
Frontal sinusitis. W. Downie, 341, 435.

Galloway, A. F.—On movable kidney, 30.
Gastrectomy for cancer, 153.
Gastric analysis. C. Douglas, 92.
  arteries, "pore-like" erosion of, causing hæmatemesis. J. Lindsay Steven, 5, 124.
Gastro-enterostomy, 154.
  for stricture of pylorus. D. Newman, 429.
  remote effects of, 317.
Giant-cells, fate of, in healing tubercle, 467.
Glasgow Medical Journal, annual meeting, 118.
Glasgow meteorological and vital statistics, 80, 160, 240, 320, 400, 470.
Glaucoma treated by resection of the sympathetic ganglia, 318.
Glen, D.—The heart from a case of morbus cæruleus, 413.
Goitre, cystic, removed by operation. G. T. Beatson, 57.
  exophthalmic, early eye symptoms in. J. Hinshelwood, 84, 120.
  treated by resection of sympathetic, 318.
  hæmatozoon of, 78.
  in Lanarkshire. D. M'Kenzie, 15, 123.
Gravity, specific, of insane brain, 75.

Hæmatemesis from "pore-like" erosion of gastric arteries. J. Lindsay Steven, 5, 124.
Hæmaturia after injury of the kidney. D. Newman, 133.
Hæmorrhage treated by intercellular saline injections. R. Jardine, 169, 297.
Hawthorne, Dr. C. O., 54.

Heart, case of congenital malformation. R. B. Ness, 358, 377.
  malformation. R. M. Buchanan, 428.
  disease and pregnancy. J. Lindsay Steven, 401, 436.
  in morbus cæruleus. D. Glen, 413, 428.
Hernia cerebri treated by celluloid plate, 154.
Hemiplegia, facial and oculomotor palsies in, 316.
Heroin hydrochloride, 420
Hinshelwood, J.—Case illustrative of early eye symptoms in exophthalmic goitre, 84.
Hospital construction, 319.
House-fly's eggs in stools of infant, 464.
Hunter, W. K., and Workman, C.—Cirrhosis of liver in a child 6 years old, 81.
Hunterian Museum, Glasgow University, 418.
Hydrorrhœa, nasal, 158.
Hydrochloric acid as application to tympanic cavity and meatus, 397.
Hyperpyrexia, nerve-cells in, 458.
Hypnotism, complicated neurotic disease cured by. A. Robertson, 374.
Hysterectomy by median abdominal section, 155.
Hysterical deaf-mutism, 459.

Ileum, pedunculated spindle-celled sarcoma of. H. C. Cameron, 378.
Insane, general paralysis of. G. S. Middleton, 256.
Insanity treated by thyroid, 315.
Intestinal wall, cyst of. A. E. Maylard, 213.
Intestine, nævoid tumour successfully removed from. J. H. Nicoll, 59.
Intussusception, cases in infants, treated by operation. H. Rutherfurd, 129.
  with nævoid tumour. J. H. Nicoll, 59.
Inversion of uterus, new operation for, 396.

Jacobi ward for clinical instruction, 462.
Jardine, R.—Intercellular saline injections in cases of hæmorrhage and eclampsia, 169.
Joint disease, Charcot's. J. Love, 421.

Kelly, J. K.—Notes on tubal cases, 260.
Kidney, movable. A. F. Galloway, 30.
Kidneys, cystic. C. Workman, 379.

Labour, induction of. M. Black, 388.
Labyrinth and cerebellar abscess, 398.
Lanarkshire, goitre in. D. M'Kenzie, 15, 123.
Larynx, mycosis of. A. A. Gray, 204.
Lectures on clinical medicine by J. Lindsay Steven. Lecture XI, 401.
Lenval prize, 419.
Leukæmia, acute, 77.
Limbs, case of defective development. J. Lindsay, 274, 297.
Lindsay, J.—Case of defective development of the limbs, 274.
Lipoma removed from superior mediastinum. G. T. Beatson, 57.
Literature, influence of Scottish medical men on. W. L. Brown, 307.
  of laryngology, 158.
Liver, acute atrophy of. C. Douglas, 381.
  cirrhosis of, in child 6 years old. W. K. Hunter and C. Workman, 81, 127, 204.
  pulsation of. G. S. Middleton, 252.
Lupus treated by tuberculin, curetting, and cautery. A. Napier, 128.
Lymphatic constitution. J. H. Pringle, 351.

M'Kenzie, D.—Endemic goitre and its occurrence in Lanarkshire, with some observations on the pathology of the disease, 15.
Macartney, D —Nerve suturing, cases, 357.
Malaria, Transvaal, cases of. J. Boyd, 102.
Malarial fever in West Africa. J. Ritchie, 328.
Malformation of heart. R. B. Ness, 358, 377.
Marrow of bone, action of arsenic on. R. Stockman, 373.
Marsh, E. L.—Summary of the work of the plague hospital, Poona, India, 25.
Mastoiditis, acute, without perforation, 398.
Mather, the late Dr. George, memorial, 417.
Maylard, A. E.—Treatment, in the early stages, of acute appendicitis by saline aperients, 161.
Measles, exanthem of, on buccal mucous membrane, 155.
Mediastinal tumour (aneurysm). Geo. S. Middleton, 258.
Mediastinum, fatty tumour removed from. G. T. Beatson, 57.
Medico-Chirurgical Society: Transactions of—
  Nicoll, J. H.—Case of cerebellar abscess successfully treated by operation, 56.
  Beatson, G. T.—Cystic goitre removed by operation, 57.
    fatty tumour removed from the superior mediastinum, 57.
  Adams, J. A.—Large meningo-encephalocele removed by operation, 58.
  Nicoll, J. H.—Large meningo-encephalocele removed by operation, 58.
    nævoid tumour of the intestine enclosed in a double intussusception, successfully resected, 59.
  Connal, J. G.—Carcinoma of tonsil, 120.
  Hinshelwood, J.—Case illustrative of the early occurrence of eye symptoms in exophthalmic goitre, 120.
  Somerville, W. F.—Relief of pain in the back not due to organic disease, 121.
  Hinshelwood, J.—Word-blindness, 122.
  M'Kenzie, D.—Endemic goitre in Lanarkshire, 123.
    microscopic specimens, &c., 124.
  Steven, J. Lindsay.—Profuse hæmatemesis due to "pore-like" erosion of the gastric arteries—no round ulcer—exulceratio simplex, 124.
    multiple tubercular tumours of the brain—enlargement of the right crus cerebri—great atrophy of the right third nerve, 125, 200.
  Hunter, W. K., and Workman, C.—Case of cirrhosis of the liver in a child 6 years old, 127.
  Edington, G. H.—Hypertrophy of finger-nail, 127.
  Steven, J. Lindsay.—Two cases illustrating the duration of general peritonitis after the rupture of a perforating ulcer of the stomach and of the duodenum respectively, 200.
  Rutherfurd, H.—Ruptured gastric ulcer: suture, 200.
  Hunter, W. K., and Workman, C.—Specimens from a case of cirrhosis of the liver in a child of 6 years, 204.
  Gray, A. A.—Mycosis of the larynx, 204.
  Edgar, J.—Fresh specimens, 288.
  Kelly, J. K.—Notes on tubal cases, 289.
  Edgar, J.—Vaginal cœliotomy, 290.
  Anderson, T. M'Call.—Case of psoriasis rupioides, 421.
  Love, J.—Tabes with diabetes, 421.

MEDICO-CHIRURGICAL SOCIETY: TRANSACTIONS OF (*continued*)—
  LOVE, J.—Tabes with Charcot's joint, 421.
    pseudohypertrophic paralysis, 422.
  DALZIEL, T. K.—Laparotomy for perforated enteric ulcer, with specimens of other enteric perforations, 423.
  PARRY, R. H.—Case of extra-capsular fracture of femur operated on, 427.
  CONNAL, J. G.—Large nasal polypus, 427.
  GLEN, D.—Heart from a case of morbus cæruleus, 428.
  BUCHANAN, R. M.—Heart with a single ventricle and a single auricle, 428.
  NICOLL, J. H.—Fresh specimens, 428.
  M'CALL, J. M.—Fresh specimens, 429.
  NEWMAN, D.—Case of stricture of the pylorus in which gastro-enterostomy was successfully performed, 429.
    case of tumour of the colon in which colo-enterostomy was done, 430.
    case of round and spindle-celled sarcoma of the pharynx; the tumour removed by operation; no recurrence, 432.
    case of injury of the kidney with prolonged hæmaturia; recovery, 433.
  DOWNIE, W.—Frontal sinusitis, with several illustrative cases, 435.
Ménière's disease. J. Patrick, 442.
Meningo-encephalocele removed by operation. J. A. Adams, 58.
  J. H. Nicoll, 58.
Mesentery, chylous cyst of, 154.
Mikulicz's operation, bones of foot after. R. H. Parry, 440.
Micrococcus melitensis (Bruce), 466.
Microphthalmos. T. S. Meighan, 138.
MIDDLETON, G. S.—Demonstration, 252.
Mitral stenosis and its relations to pregnancy. J. Lindsay Steven, 401, 436.
Moir, Dr. John, obituary notice, 415.
MONRO, T. K.—List of the principal writings of the late Professor Joseph Coats, M.D., 267.
Morbus cæruleus, heart from case of. D. Glen, 413. 428.
Museum, Hunterian, Glasgow, 418.
Mycosis of larynx. A. A. Gray, 204.

NÆVOID tumour of intestine successfully removed. J. H. Nicoll, 59.
Nail of finger, hypertrophy of. G. H. Edington, 127.
Nasal polypus. J. G. Connal, 427.
Nephrolithiasis, diagnosis of, by *x* rays, 154.
Nephrolithotomy on two sides at interval of ten years. R. H. Parry, 439.
Nerve-cells in hyperpyrexia, 458.
Nerve suturing, two cases. D. Macartney, 357.
NESS, R. B.—Case of congenital malformation of the heart, 358.

OBITUARY—
  Donald Campbell Black, M.D., 53.
  Professor Joseph Coats, M.D., 108.
  Sir John Struthers, M.D., LL.D., 285.
  William Rutherford M.D., F.R.S., 286.
  John Moir, M.D., 415
OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: TRANSACTIONS OF—
  EDGAR, J.—Fresh specimens, 214, 296.
  MILLER, ALEX.—Presidential address: Twenty years' obstetric practice, 216.
  LINDSAY, J.—Case of defective development of the limbs, 297.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: TRANSACTIONS OF (*continued*)—
  JARDINE, R.—Intercellular saline injections in cases of hæmorrhage and eclampsia, 297.
  REID, W. L.—Notes of two cases illustrative of the difficulty of diagnosis of abdominal tumours, 299.
  EDGAR, J.—Case of tubal abortion, 302.
  DOUGLAS, C.—Case of acute yellow atrophy of the liver occurring during the eighth month of pregnancy, 381.
  BLACK, M.—Induction of premature labour in the Glasgow Maternity Hospital during the past three years, 383.
O'CONOR, J.—One hundred and thirty-eight cases of abdominal surgery, 185.
Oculomotor nerve in hemiplegia, 316.
Orbit, carcinoma of. T. S. Meighan, 134.
Ovary, primary sarcoma of, three cases. A. Napier, 207.

PAIN in back. W. F. Somerville, 121.
Paisley water supply and epidemic of enteric fever. R. M. Buchanan, 48.
Paralysis, general, of insane. G. S. Middleton, 256.
  progressive general, 76.
  pseudohypertrophic. J. Love, 422.
PATHOLOGICAL AND CLINICAL SOCIETY: TRANSACTIONS OF—
  DALZIEL, T. K.—Gangrenous uterine fibroid tumour from torsion of its pedicle, 60.
    four cysts from the neck, 62.
  MEIGHAN, T. S.—Conglomerate tubercle of the choroid, 62.
  CARSLAW, J.—Detachment of retina in both eyes in chronic nephritis, 68.
  EDINGTON, G. H.—Case of dermoid cyst of the penis of tubular form, 69.
  NAPIER, A.—Lupus of thirty-two years' standing treated by tuberculin, curetting, and cautery, 128.
  RUTHERFURD, H.—Intussusception in the infant: two cases treated by operation, 129.
    patient wearing a simple form of suprapubic drain, 134.
  MEIGHAN, T. S.—Carcinoma of orbit, 134.
    buphthalmos, 136,
    microphthalmos — colobomata, persistent pupillary membrane, and probable absence of lens, 138.
  NAPIER, A.—Notes on three cases of primary ovarian sarcoma, 207.
  FINLAYSON, J.—Primary sarcoma of the stomach in a young child, 212.
  MAYLARD, A. E.—Cyst of the wall of the bowel, 213.
    adventitious diverticulum of the sigmoid flexure, 213.
  FLEMING, W. J.—Amputations, 291.
  ROBERTSON, J. M'G., AND M'KENDRICK, J. S.—Metastatic pyæmia from trivial causes, 291.
  SCOBIE, W.—Case of malignant endocarditis, 364.
  GEMMELL, S.—Case of malignant endocarditis, 365.
  CARSLAW, J.—Case of infective endocarditis following pneumonia, 371.
  STOCKMAN, R.—Action of arsenic on the bone-marrow and blood, 373.
  ROBERTSON, ALEX.—Case of recovery from a complicated neurotic disease under treatment by hypnotism, 374.

- **Pathological and Clinical Society: Trans. of** (*continued*)—
  - Ness, R. B.—Case of congenital malformation of the heart, 377.
  - Cameron, H. C.—Case of subserous pedunculated spindle-celled sarcoma of the ileum, with torsion of the pedicle, 378.
  - Workman, C.—Preparations from a case of cystic kidneys, 379.
  - Steven, J. Lindsay.—Three cases of mitral stenosis, 436.
  - Robertson, Alex.—Case of torticollis and other spasmodic disorder, 437.
  - Parry, R. H.—Renal calculus removed from a patient on whom nephrolithotomy was performed on the opposite side ten years previously, 439.
    - foot after Mikulicz's operation, 440.
- Pediatrics, teaching and practice of, 463.
- Pelvis, resection of, 155.
- Pemphigus foliaceus in new-born, 156.
- Penis, dermoid cyst of. G. H. Edington, 1, 69.
- Perisplenitis, 317.
- Peritonitis, duration of, after rupture of gastric and of duodenal ulcer. J. Lindsay Steven, 87, 200.
- Pharynx, sarcoma of, operation. D. Newman, 432.
- Phonendoscope in simulated deafness, 398.
- Plague, disinfection for, 54.
  - hospital work at Poona, India. E. L. Marsh, 25.
- Pneumonia and chloride metabolism, 467.
  - followed by infective endocarditis. J. Carslaw, 371.
- Polypus, nasal, cystic. J. G. Connal, 427.
- Poona plague hospital. E. L. Marsh, 25.
- Pregnancy and mitral stenosis. J. Lindsay Steven, 401, 436.
  - tubal, wall of tube in, 467.
- Pringle, J. H.—Notes on the lymphatic constitution, 351.
- Prize, Lenval, 419.
- Pseudohermaphrodite, 395.
- Pseudohypertrophic paralysis. J. Love, 422.
- Pseudolupus caused by blastomyces, 467.
- Psoriasis mysioides. T. M'Call Anderson, 421.
- Pyæmia from trivial causes. J. M'G. Robertson and J. S. M'Kendrick, 291.
- Pylorus, stricture of; gastroenterostomy. D. Newman, 429.

- **Renal** calculus removed from subject of old nephrolithotomy. R. H. Parry, 439.
- Retinæ, detachment of, in chronic nephritis. J. Carslaw, 68.
- **Reviews**—
  - Allbutt, T. C.—System of medicine, vol. vi, 446.
  - Anderson, T. M'Call, and Hinshelwood, J.—Contributions to clinical medicine, 391.
  - Atkinson, T. R.—Aids to examinations, part ii, 74.
  - Bacon, G.—Manual of otology, 231.
  - Barbour, A. H. F.—Anatomy of labour as studied in frozen sections, 395.
  - Bastian, H. C.—Aphasia and other speech defects, 148.
  - Bell, J.—Notes on surgery for nurses, 232.
  - Bennett, W. H.—Varix, 152.
  - Braithwaite, J., and Trevelyan, E. F.—Retrospect of medicine, 392.
- **Reviews** (*continued*)—
  - Burdett's official nursing directory, 456.
  - Burr, C. B.—Primer of psychology, 149.
  - Chreiman, M. A.—Health loss and gain, 393.
  - Code of rules for the prevention of infectious and contagious diseases in schools, 454.
  - Corfield, W. H.—Dwelling houses, 394.
  - Crile, G. W.—Surgical shock, 449.
  - De Méric, H.—English-French dictionary of medical terms, 457.
  - De Schweinitz, G. E., and Randall, B. A.—American text-book of diseases of the eye, ear, nose, and throat, 452.
  - Dowse, T. S.—Treatment of disease by physical methods, 455.
  - Dudley, E. C.—Diseases of women, 451.
  - Earl, A.—The living organism, 71.
  - Freeman, E. C.—Sanitation of British troops in India, 453.
  - Fürbringer, P., and Gilbert, W. H.—Diseases of the kidneys and genito-urinary organs, 151.
  - Gibson, G. A.—Diseases of the heart and aorta, 143.
    - Edinburgh medical journal, vol. iv, 235.
  - Gillespie, A. L.—Natural history of digestion, 234.
  - Gowers, Sir W. R., and Taylor, J.—Diseases of the nervous system, third edition, vol. i, 230.
  - Halliburton, W. D.—Kirkes' handbook of physiology, 457.
  - Herschell, G.—Constipation, 456.
  - Hime, M. C.—Schoolboys' special immorality, 454.
  - Ireland, W. W.—Mental affections of children, 228.
  - Leaf, C. H.—Surgical anatomy of the lymphatic glands, 144.
  - Lückes, E. C. E.—General nursing, 72.
  - Luff, A. P.—Gout: its pathology and treatment, 140.
  - M'Farland, J.—Pathogenic bacteria, 230.
  - Morris, H.—Human anatomy, 230.
  - Morris, M.—Diseases of the skin, 311.
  - Mracek, F., and Bangs, L. B.—Atlas of syphilis and venereal diseases, 238.
  - Park, R.—History of medicine, 449.
  - Purdy, C. W.—Practical uranalysis, 151.
  - Roth, B.—Treatment of lateral curvature of the spine, 310.
  - Sheild, A. M.—Diseases of the breast, 147.
  - Simpson, J. C.—Cerebral and mental symptoms, 150.
  - Slater, C., and Spitta, E.—Atlas of bacteriology, 234.
  - Smith, E. N.—Growing children: their clothes and deformity, 392.
  - Starr, L., and Westcott, T. S.—Diseases of children, 228.
  - Talbot, E. S.—Degeneracy: its causes, signs, and results, 146.
  - Taylor, J. M., and Wells, W. H.—Manual of the diseases of children, 228.
  - Thomson, J.—Guide to clinical examination and treatment of sick children, 73.
  - Transactions of the American surgical association, vol. xvi, 313.
    - Edinburgh obstetrical society, vol. xxiii, 312.
  - Wells, H. G., and Davies, A. M.—Text-book of zoology, 152.
  - Williams, D.—Medical diseases of infancy and childhood, 228.

Rheumatoid arthritis. G. S. Middleton, 257.
RITCHIE, J.—The fevers of West Africa: their nature, treatment, and prevention, 328.
Rutherford, Professor, obituary notice, 286.

SALINE injections in eclampsia. R. Jardine, 445.
Sarcoma of ileum, pedunculated, with torsion of pedicle. H. C. Cameron, 378.
  ovary, three cases. A. Napier, 207.
  pharynx, operation for. D. Newman, 432.
  stomach, primary, in child. J. Finlayson, 212.
Sclerosis, disseminated, in childhood, 459.
Scottish medical men, their influence on literature. W. L. Brown, 307.
Scurvy, infantile, caused by sterilised milk, 78.
Serum antistreptococcic, 318.
Serum-therapy of syphilis, 236.
Sigmoid flexure, adventitious diverticulum of. A. E. Maylard, 213.
  sinus, thrombosis of. J. Patrick, 443.
Sinus thrombosis. J. Patrick, 443.
Sinusitis, frontal. W. Downie, 341, 435.
Skin, miliary tuberculosis of, 156.
Skull, intra-uterine fracture of, 397.
Society, Glasgow Eastern, 419.
  Glasgow Obstetrical and Gynæcological, 419.
Spleen, enlargement of, 317.
Splenectomy for injury, 154.
Splenitis, 317.
Stenosis of mitral valve and pregnancy. J. Lindsay Steven, 401, 436.
STEVEN, J. LINDSAY.—On profuse hæmatemesis due to "pore-like" erosion of the gastric arteries — no round ulcer — exulceratio simplex of Dieulafoy, 5.
  on three fatal cases of mitral stenosis illustrating various complications of the disease, and especially its relation to the occurrence of pregnancy, 401.
  two cases illustrating the duration of general peritonitis after the rupture of a perforating ulcer of the stomach and of the duodenum respectively, 87.
Stomach, dilatation of, in boy aged 12 years. G. S. Middleton, 254.
  disease, gastric analysis in. C. Douglas, 92.
  perforating ulcer of. J. Lindsay Steven, 87, 200.
  primary sarcoma of, in child. J. Finlayson, 212.
  ulcer of, rupture and suture. H. Rutherfurd, 200.
Struthers, Sir John, obituary notice, 285.
Suicide in Great Britain, 74.
Surgery, abdominal, cases of. J. O'Conor, 185.
Suturing of nerve, cases. D. Macartney, 357.
Sympathetic ganglia resected for epilepsy, exophthalmic goitre, and glaucoma, 318.
Syphilis, serum-therapy of, 236.
Syringomyelia and cheiromegaly, 462.
  of abnormal type, 236.
  unusual symptoms, autopsy, 460.

TABES with Charcot's joint affection. J. Love, 421.
  with diabetes. J. Love, 421.
Therapeutic notes (obstetric, &c.), 397.
Thyroid in treatment of insanity, 315.
Tonsil, case of carcinoma of. J. G. Connal, 120.
Torticollis and other spasmodic disorder, cases of. A. Robertson, 437.
Transvaal malaria, case of. J. Boyd, 102.
Traumatic separation of epiphyses. J. Battersby, 46.
Tremor, hereditary, 458.
Trichinosis, sporadic, 461.
Tubal abortion, complete, case of. J. Edgar, 302.
  cases, notes on. J. K. Kelly, 260, 289.
  pregnancies, wall of tube in, 467.
Tuberculin treatment, observations on. T. M'Call Anderson, 321.
Tubercular tumours of brain. J. Lindsay Steven, 125, 200.
Tuberculosis, healing, fate of giant-cells in, 467.
  in dairy stock, 198.
Tuberculous meat at Leipzig, 461.
Tumours of abdomen, difficulty of diagnosis. W. L. Reid, 299.
Tuning-forks, definition of, 398.
Twenty years' obstetric practice. A. Miller, 214.
Tympanitic inflation, technique of, 157.
Type of insanity, change of, 75.

ULCER of stomach and of duodenum, rupture, peritonitis. J. Lindsay Steven, 87, 200.
  of stomach, rupture and suture of. H. Rutherfurd, 200.
Uterine fibroid, with torsion of pedicle and gangrene. T. K. Dalziel, 60.
Uterus, inversion of, new operation for, 396.
  ruptured, vaginal extirpation of, 396.

VAGINAL cœliotomy. J. Edgar, 178, 290.
  extirpation of ruptured uterus, 396.

WEST African fevers. J. Ritchie, 441.
Whooping-cough, early diagnosis of, 158.
Word-blindness. J. Hinshelwood, 122.
WORKMAN, C.—See Hunter and Workman.

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